

Eastern Region, Area 2

Integrated Roadside Vegetation Management Plan

October 2006



**Washington State
Department of Transportation**
Maintenance and Operations Division

Summary

The Washington State Department of Transportation (WSDOT) manages approximately 850 miles of roadside right-of-way throughout Adams, Whitman and Spokane counties. This right-of-way is part of the state highway system including US 195, SR 27, SR 26, SR 23 as well as several other state routes in the area. A map of state highways and routes in this area is attached or can be accessed at <http://www.wsdot.wa.gov/maintenance/vegetation/default.htm>.

As a landowner in this area WSDOT is required to control all listed noxious weeds that occur on this right-of-way by state law (RCW 17.10 and 15.15.010). It is important to WSDOT to not only meet the legal requirements, but also to consider the needs and concerns of adjacent landowners in this area.

In order to better manage these roadsides WSDOT is in the process of developing an Integrated Vegetation Management Plan (IRVM) for this area. This plan will serve as the primary guidance document for maintenance of roadsides in this area and will provide detailed weed control and planting guidance as well as overall policy and procedures. This plan supports WSDOT's long-range goals of managing these roadsides to:

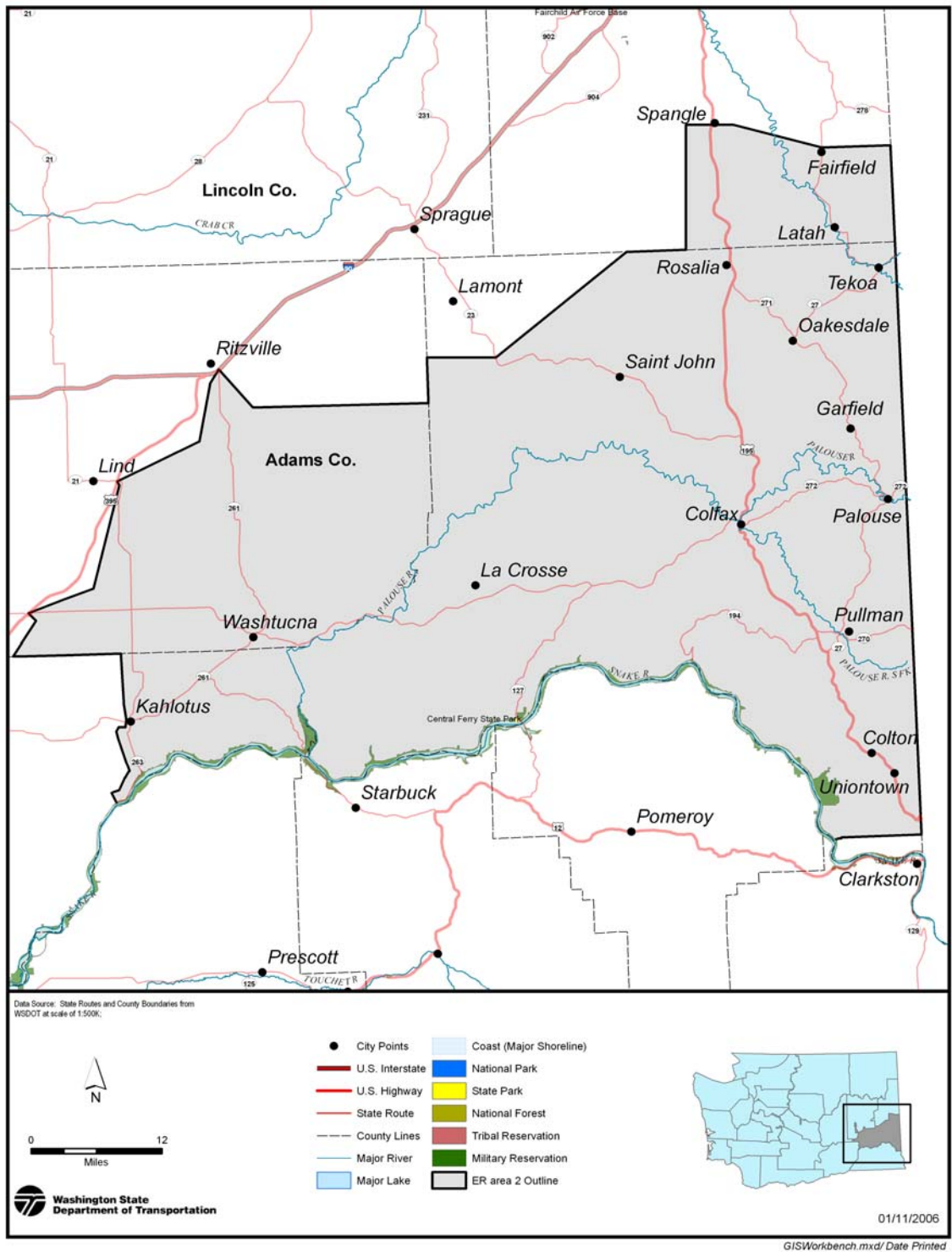
- Reduce maintenance costs
- Improve weed control
- Enhance roadside vegetation by providing stable, sustainable plant communities

The attached plan consists of four main sections, 1) introduction, 2) description of roadside concepts and WSDOT policies, 3) the main body of the plan document and 4) the appendices. The "**Introduction**" provides a background that has lead to the development of the plan as well as references to other pertinent guidance documents. The "**Description Section**" deals with roadside character and maintenance considerations and gives the reader an overall understanding the WSDOT roadside program. The "**Plan**" is the main body of the document and includes detailed descriptions of specific maintenance activities, policies and objectives. The "**Appendices Section**" contains prescriptions for weed control and revegetation, noxious and nuisance weed locations, locations of special maintenance areas, forms and records, and a list of local public and private stakeholders.

This plan is a dynamic document that will be developed and updated over time with input from a variety of sources. WSDOT will be requesting comments and suggestions from local private and public entities during 2005-2006 by public notifications, letters and personal communications. A working draft version of the IRVM plan will be accessible in an electronic form at <http://www.wsdot.wa.gov/maintenance/vegetation/default.htm> or available in hard copy upon request. Please contact Jay Miller or James Morin at the numbers listed below for questions or comments.

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Vicinity Map
Figure 1

Program Goals

The purpose of this section is to identify the short and long term operational goals within Eastern Region, Area 2. These goals will help direct decisions that effect roadside management and the construction of roadside. These goals will be updated and evaluated on a yearly basis during the annual Winter Planning Meeting.

Long-Term Goals (2006-2010)

Long-term goals should be achievable within a 5 year period of time and have clearly stated objectives. Long-term goals may be general in nature and should provide direction for short term operational goals.

- 1) Improve Roadside Vegetation as time and funds are available
- 2) Reduce use of residual chemicals where possible

Short-Term Goals (2006-2007)

Short-term goals should be attainable within a 1-2 year period of time. Short-term goals should be specific goals with clear objectives that can be measured and reported.

- 1) Identify revegetation opportunities for 2007
- 2) Identify other areas where zone 1 can be reduced or eliminated
- 3) Develop local knowledge and experience in roadside revegetation

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Roadside Maintenance Considerations

The primary objectives for maintenance of roadside vegetation are:

- Provide safe highway operation
- Comply with legal regulations for control of noxious weeds
- Protection of the environment

Overall WSDOT maintenance policy and procedures are defined in Chapter 6 of the WSDOT Maintenance Manual (M51-01, March 2002)

www.wsdot.wa.gov/fasc/EngineeringPublications/Manuals/MaintenanceManual.pdf

Visual Quality

All maintenance activities should be conducted in a way that minimizes visual impacts such as wide spread “brown-out” from herbicides or shattered limbs from side trimming. Roadsides should look as natural as possible throughout the year. Appropriate visual quality for roadsides throughout the state is defined in the WSDOT Roadside Classification Plan (June 1996)

www.wsdot.wa.gov/fasc/EngineeringPublications/Manuals/RCP.pdf

Operational Zones

WSDOT roadsides are divided into several zones for the purposes of assigning management objectives, maintenance intensities, and thresholds for triggering vegetation maintenance actions. Noxious weed species designated for control by state and county law are controlled throughout all zones. Not all maintenance zones will occur along state highways in ER Region, Area 2. In many cases the narrow width of the right-of-way or adjoining land-use, limit the operational zones to Zone 1 and a narrow Zone 2 only. Roadside vegetation management zones are as follows:

Zone 1 – Where necessary, a vegetation free gravel shoulder is maintained to provide for key operational and safety needs.

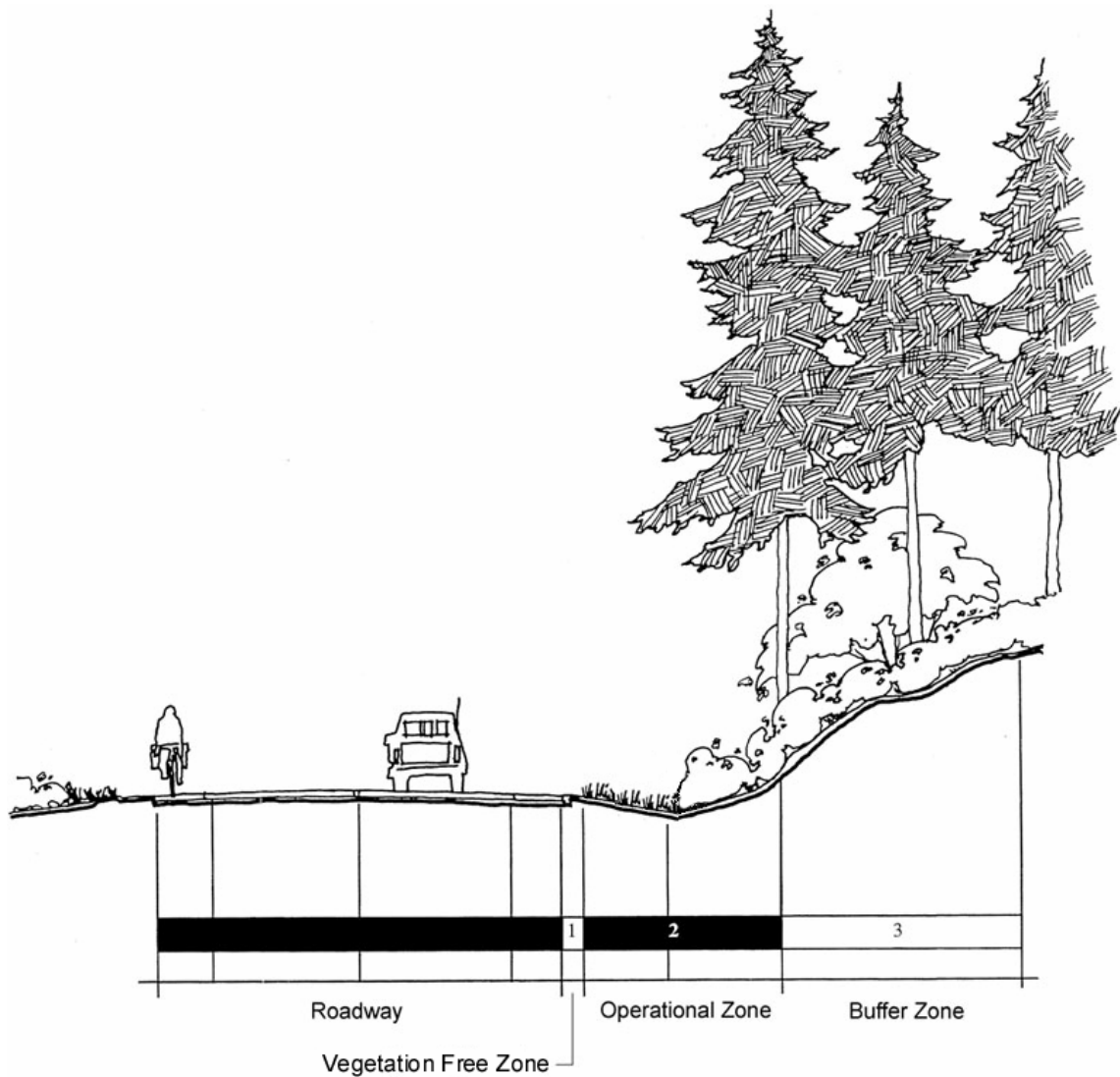
Zone 2 – The operational zone extends from the edge of Zone 1, or the pavement edge, to a width necessary to provide for safe errant vehicular recovery, maintain sight distance at corners and intersections, and provide for other operational, safety, and environmental functions. This zone must be free of vegetation with trunk diameter greater than 6”.

Where guardrail exists there is no requirement to maintain the vehicle recovery zone.

The goal of vegetation management in Zone 2 is to:

- Encourage the growth of stable low growing desirable plant communities
- Control noxious weeds
- Reduce routine maintenance costs
- Reduce erosion and stabilize the roadway shoulder
- Support roadside operational and safety needs

Zone 3 – In areas with sufficient right-of-way width, a buffer or transition zone extends from Zone 2 to the right-of-way line to provide a buffer or transitional area between the highway facility and adjacent land uses. This area is maintained selectively, and to the greatest degree possible as a self-sustaining plant community, to minimize erosion as well as the growth of weeds and undesirable trees and brush.



Vegetation Free Zone

Gravel Shoulder

Maintained using mechanical and chemical methods to improve drainage and protect pavement.

Operational Zone

Low Vegetation

Maintained by mowing and IVM for sight distance, safety, and weed control.

Buffer Zone

Native/ Natural Vegetation

Maintained using IVM to encourage native self-sustaining plant communities.

Typical Roadside Vegetation Management Zones

Figure 2

Special Considerations

Herbicide Sensitive Areas

An Herbicide Sensitive Areas consist of all locations within 60' of salmon bearing streams or water body. Herbicide Sensitive Areas as described in court order of Washington Toxics Coalition vs. EPA (<http://www.epa.gov/EPA-PEST/2004/March/Day-24/p6610.htm>) occur throughout this maintenance area. Only approved herbicides will be used in these areas. (<http://agr.wa.gov/PestFert/EnvResources/Buffers.htm#maps>).

Special Maintenance Areas

This plan also defines and identifies areas with unique roadside maintenance requirements or where special arrangements exist due to the surrounding land use, neighbor concerns or specific highway related functions. Special maintenance areas include highway roadsides sections with agreements for maintenance by neighbors. These areas are further defined in **Special Maintenance Areas, Section 3**.

Public Notification of Herbicide Applications

WSDOT is required by law to notify chemically sensitive individuals on file with Washington State Department of Agriculture, where the residing property abuts the highway right of way and the residence is within ½ mile of the property line. Notification to chemically sensitive individuals is accomplished by letter and/or phone conversation prior to each application. For specific herbicide application schedules, the roadside vegetation maintenance personnel can be reached at 509.397.3051.

Herbicide Safety

When applying herbicides WSDOT takes necessary precautions to avoid any impact on human and environmental health, and to ensure herbicides do not move off target. Applications are made only by trained and licensed employees following all state and federal regulations as well as all recommendations and restrictions given on the individual product labels as approved by the US Environmental Protection Agency.

WSDOT has also conducted a risk assessment for the herbicide products and application methods used on state highways. Toxicological impacts of WSDOT practices were evaluated for human health (both operators and the general public), for aquatic ecosystems, and terrestrial wildlife. The findings of this assessment are summarized in a series of fact sheets for the individual herbicides used by WSDOT. These fact sheets can be viewed and downloaded through the Internet at: http://www.wsdot.wa.gov/biz/maintenance/htm/risk_assessment.htm, or copies may be obtained by calling the WSDOT Headquarters Maintenance Office at (360) 705-7850.

WSDOT Employee Training and Education

Perhaps the most important key to success in the implementation of this plan is the education and training of the maintenance employees who are responsible for delivery of the program on a day-to-day basis. This plan and the information resources it provides is intended to supplement and enhance existing training and educational opportunities already in place. Training and education for employees engaged in delivery of the roadside vegetation management will include:

- Participation in an annual one-day spring review of vegetation management needs and activities from the previous year, and planning for the coming year, including the maintenance crew(s), supervisor, and area maintenance superintendent and/or assistant superintendent.
- Development of a field guide using representative photographs taken along the highway in to illustrate key aspects of IVM treatment. This will be developed over the first several years of plan implementation.
- Attendance at the annual statewide WSDOT Roadside Vegetation Management Workshops, where there is a focus on IVM tools and procedures, proper and safe use of herbicides, and lessons learned from around the state.

- Ongoing participation and communication with the public and private sector. This includes involvement in local weed board meetings, public events as well as communication with neighboring landowners and municipalities.
- Annual Winter Planning Meeting held in each Maintenance Area

Design and Construction Considerations

Highway and utility construction in many cases has a significant impact on drainage, soils and vegetation adjacent to the paved roadway. WSDOT policy and practice for restoring the operational, environmental and visual functions disturbed by construction is based on the guidelines found in the Roadside Classification Plan (RCP) (WSDOT 1996), and the Roadside Manual (WSDOT M25-30, July 2002).

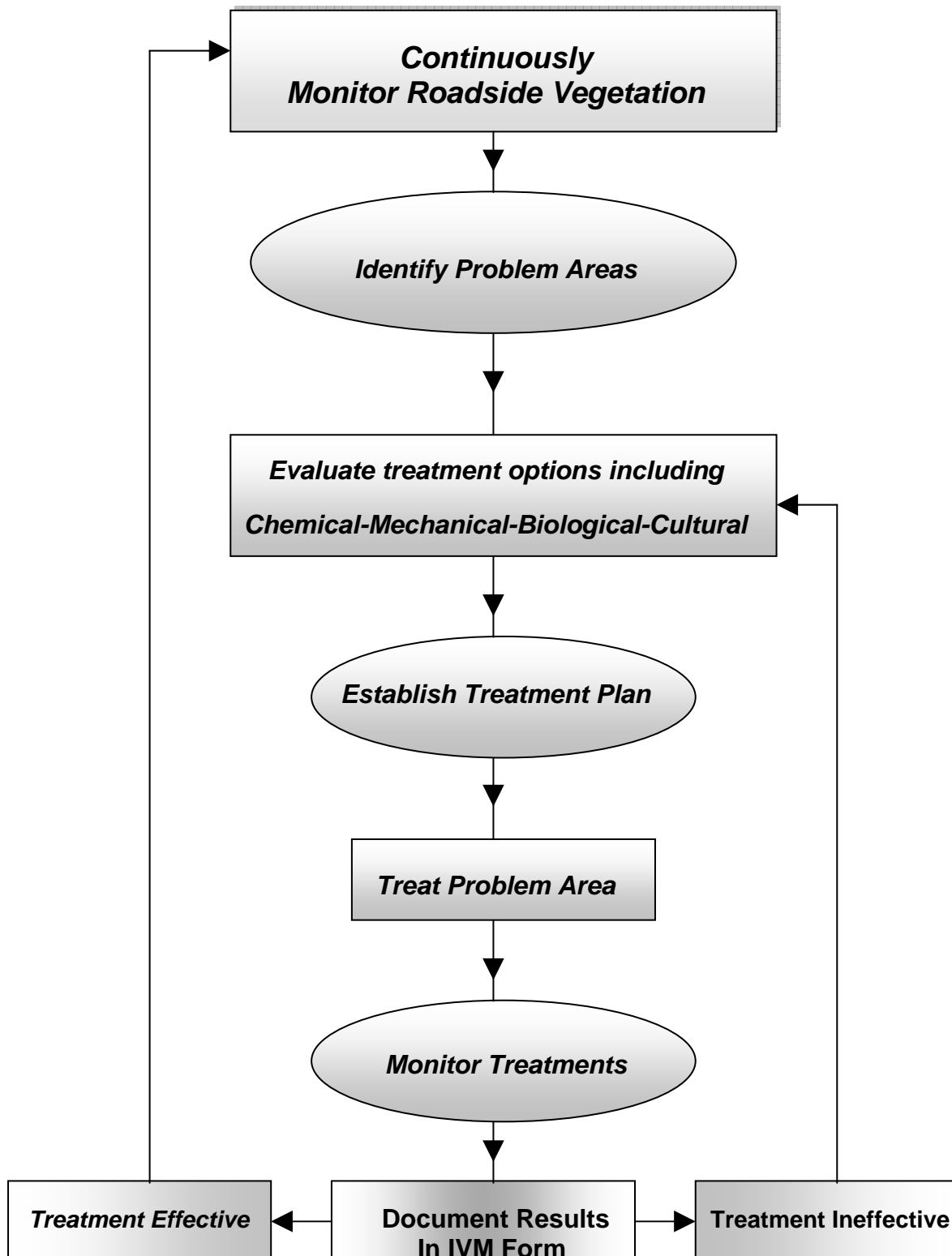
Internal agency coordination between the Design, Construction, and Maintenance programs is imperative to a comprehensive roadside vegetation management plan. A commitment to increasing communication in these areas is an important component in an ongoing effort to reduced lifecycle costs and improve roadside vegetation. This commitment has been recognized and agreed to by the regional management team.

Below is a list of design/construction projects that may have impacts to roadsides in the next 2-4 years:

- SR 270 -- Pullman to Idaho State Line
- US 195 -- SR 271 Junction to Plaza
- SR 194 – Guardrail Improvements
- WSDOT Eastern Region Projects Link:
<http://www.wsdot.wa.gov/Regions/Eastern/projects/>

Below is a list of permitted utility projects in the that are scheduled for construction within the next 2-4 years.

- *There are no utility construction contracts planned for the near future.*



The IVM Decision-Making Process
Figure 3

Roadside Vegetation Management Plan

1. ROUTINE MAINTENANCE ACTIVITIES

Roadside maintenance activities are considered routine when regular annual treatment is required because vegetative growth annually or regularly exceeds action thresholds. Typical routine maintenance activities include maintenance of Zone 1 and certain types of mowing and trimming.

1.1. Routine Shoulder Maintenance (Zone 1)

1.1.1. Policy and objectives

Historically the edge of pavement, or zone 1, has been maintained to be free of vegetation. This vegetation free zone has typically varied from 3' to 6' in width; however this policy is currently being reevaluated. The current zone 1 policy in Eastern Region, Area 2 is focused on the reduction of zone 1 where practical. These areas will be transitioned into stable, desirable plant communities as soon as possible.

The goals of the zone 1 policy for Eastern Region, Area 2 are as follows:

- 1) Identify opportunities to reduce zone 1 width where practical
- 2) Develop desirable stable vegetation and reduce routine maintenance and lifecycle costs
- 3) Continue to control noxious and select nuisance weeds
- 4) Meet site-specific operational needs, i.e. drainage, site distance etc.
- 5) Implement appropriate alternatives as they become available

1.1.2. Action Thresholds (Zone 1):

An action threshold refers to the point at which action must be taken to control an infestation of weeds. The action thresholds for treatment of zone 1 are listed below.

- Presence of listed noxious or nuisance weeds in specified road sections
- Sight distance limited by vegetation within zone 1
- Special safety considerations
- Occurrence of vegetation in guardrail sections

1.1.3. Methods (timing and procedures)

Zone 1 residual applications will occur in the spring, typically beginning in early March. Herbicide Sensitive Areas will be maintained with a chemical that has been approved for use within this 60-foot buffer or by alternative mechanical applications. Special care will be given to these sensitive areas to insure that there are no impacts to the aquatic environment.

1.1.4. Prescriptions

See **Appendix A, Zone 1 Maintenance Prescriptions**

1.2. Hazard Tree Removal

1.2.1. Policy and Practices

Trees within the right-of-way are routinely monitored by maintenance staff. Hazard trees may be:

- Dead
- Diseased
- Leaning or
- Structurally damaged or unsound

- Shading, in some cases trees cause shading and create excessive frost problems on the roadway. In these cases canopy thinning or removal may take place to mitigate the risk.
- Trees that are identified as an imminent threat to the highway or traffic will be evaluated using best horticultural judgment and removed as soon as possible.

2. INTEGRATED VEGETATION MANAGEMENT ACTIVITIES

For all vegetation management needs not addressed through routine maintenance as described above, activities are planned and carried out using the principles of Integrated Vegetation Management (IVM) and the decision making process described in Figure 3 (page 12). The goals of the IVM program are to:

- Provide effective control of noxious weeds
- Reduce maintenance life cycle costs
- Establish stable roadsides with desirable vegetation
- Preserve and enhance environmental quality

2.1. Integrated Vegetation Management Planning and Tracking Database

2.1.1. Description

One of the keys to successful use of IVM is carrying out activities in accordance with a long-range plan and to follow up with monitoring and evaluation of treatment results. To facilitate this, IVM forms and a database have been created for statewide use by WSDOT maintenance. This system is being tested as part of the initial development of Roadside Vegetation Management Plans and will be modified and refined as technology in this area continues to develop over the coming years.

2.1.2. Sample forms

A copy of the Integrated Vegetation Management Form and Application Record are included in **Appendix E, Forms and Records**.

2.1.3. Instructions for use

Maintenance supervisors and technicians can access the IVM Record through the existing pesticide application record keeping system available from the area office. The IVM form should be used whenever evaluation of a method or product is desired. Entries should include future evaluation dates as well as a description of the site and current conditions.

2.2. Mowing Operations

2.2.1. Policy and Objectives

Mowing will be accomplished throughout the Eastern Region, Area 2 on an as needed basis. Mowing needs and prescriptions will vary by location. Mowing can be an effective form of weed control, but done incorrectly can cause damage to desirable vegetation and enhance the growing environment for unwanted weeds. It's important when conducting a mowing operation to consider a number of factors including goals, timing, target species, deck height and frequency.

2.2.2. Methods (timing and procedures)

Prior to conducting a mowing operation consider the following elements. Review items 1-7 below, then review and follow the appropriate prescriptions in Appendix A. There will be no mowing of desirable vegetation including grass, forbs, shrubs or woody species without prior authorization of the Maintenance Area Superintendent.

1. **Identify Goals Of Mowing Operation:** Before prescribing mowing as a preferred alternative it is important to clearly understand what the goals of the operation are. These goals should not only be understood by the manager or decision maker, but also must be clearly communicated and understood by the operator as well. Goals may include; control of seed production, maintenance of sight distance, control of vegetation around hardware features, control of noxious or nuisance weeds in an environmental or crop sensitive area or the removal of weed skeletons for the control of newly emerging weeds.
2. **Identify Appropriate Timing:** When mowing in a stand of established dry land perennial grass, particularly native varieties, it is important to consider timing. Mowing shall not occur until after desirable grasses have reached dormancy or set seed, typically in July-August. If the goal is control of weed seed production in an area where no desirable vegetation is present, mowing should take place as late as possible but prior to seed development. This will increase the likelihood that the target plant will not produce seed.
3. **Identify Target:** Identify target plant or plants to be controlled and ensure that the mowing operation will not spread these weed or exacerbate the existing problem. Some weeds, such as Japanese knotweed, can be easily spread through mowing. Ensure that the operator understands the target species and any desirable species in the area.
4. **Deck Height:** The mower deck height must be maintained at least 6-8 inches from the ground to reduce the likelihood of exposing bare soil. It is also important to maintain this deck height if the mowing operation will include desirable grasses. Close mowing may be allowed in special cases where no desirable species occurs and restoration work will immediately follow.
5. **Clean Mower:** Mowing can easily spread weed seed from infested areas to uninfested areas. It is important to clean the mower after each operation to ensure that mowing operation is not contributing to the spread of noxious and nuisance weeds.
6. **Consider Alternatives:** As with all IVM operations it is important to consider alternative methods. Mowing in Eastern Region, Area 2 is not a routine maintenance activity. It is a secondary form of weed control to be used on an as needed basis.
7. **Communicate:** Communication with the mower operator is critical to a successful mowing operation. The operator must understand the goals, timing, target species and desirable species before the mowing operation begins.

2.2.3. Prescriptions

See **Appendix A, IVM Mowing Prescriptions**

2.3. Noxious Weed Control

2.3.1. Policy and objectives

WSDOT is required to control and prevent the spread of all noxious weeds on lands owned or managed by the agency. Noxious weed control is a high priority for WSDOT as a result of this legal mandate as well as the fact that if they are left unchecked, levels of infestation can begin to spread at exponential rates from year to year. Noxious weeds are invasive, non-native plant species that can quickly dominate native plant communities and spread to other areas or regions. New infestations of noxious weeds often appear first in highway corridors after being transported from other areas by vehicles or transportation of agricultural products. Without timely control, new infestations can further spread along transportation corridors and to adjacent property. The overall cost and economic impact to the agricultural community and the health of native ecosystems can be significant.

WSDOT prioritizes weed control based on three legally defined weed species classification categories. Chapter 16-750 of the Washington Administrative Code lists weed species in classes A through C. Noxious weeds include all plants listed as class A, and those in classes B and C that are designated for control within each individual county.

Class A

Class A noxious weeds are non-native species with a limited distribution in the state. Immediate treatment of these new infestations is required by State law and is the top weed control priority to prevent spread into adjacent areas. Eastern Region, Area 2 is located primarily within Noxious Weed Region 7 http://www.nwcb.wa.gov/weed_list/weed_regions.htm

Currently there are no known Class A weeds identified within the WSDOT operating right of way in Eastern Region, Area 2.

Class B

Class B weeds are more widespread than Class A, with control mandated by law only if infestations are generally limited and the species are designated within the individual counties by the County Noxious Weed Control Boards. Containment, gradual reduction, and prevention of further spread are the chief management concerns of Class B species. Class B noxious weeds designated for control within Adams, Spokane, Whitman and Franklin Counties and currently present within WSDOT right-of-way include:

Adams County:

- Dalmatian Toadflax, (*Linaria dalmatica* spp *dalmatica*)
- Diffuse Knapweed, (*centaurea diffusa*)
- Hoary Alyssum, (*Berteroa incana*)
- Longspine Sandbur, (*Cenchrus longispinus*)
- Meadow Knapweed, (*Centaurea jacea* x *nigra*)
- Musk Thistle, (*Carduus nutans*)
- Oxeye Daisy, (*Leucanthemum vulgare*)

- Purple Loosestrife, (*Lythrum salicaria*)
- Perennial Pepperweed, (*Lepidium latifolium*)
- Perennial Sowthistle, (*Sonchus arvensis* ssp. *Arvensis*)
- Puncturevine, (*Tribulus terrestris*)
- Rush Skeletonweed, (*Chondrilla juncea*)
- Russian Knapweed, (*Acroptilon repens*)
- Spotted Knapweed, (*Centaurea biebersteinii*)
- Scotch Thistle, (*Onopordum acanthium*)
- Wild Carrot, (*Daucus carota*)
- Yellow Starthistle, (*Centaurea solstitialis*)

Spokane County

- Dalmatian Toadflax, (*Linaria dalmatica* spp *dalmatica*)
- Diffuse Knapweed, (*centaurea diffusa*)
- Kochia, (*Kochia scoparia*)
- Leafy Spurge, (*Euphorbia esula*)
- Musk Thistle, (*Carduus nutans*)
- Oxeye Daisy, (*Leucanthemum vulgare*)
- Purple Loosestrife, (*Lythrum salicaria*)
- Russian Knapweed, (*Acroptilon repens*)
- Scotch Thistle, (*Onopordum acanthium*)
- Spotted Knapweed, (*Centaurea biebersteinii*)
- Wild Carrot, (*Daucus carota*)

Whitman County

- Bohemian Knotweed, (*Polygonum bohemicum*)
- Dalmatian Toadflax, (*Linaria dalmatica* spp *dalmatica*)
- Diffuse Knapweed, (*centaurea diffusa*)
- Giant Knotweed, (*Polygonum sachalinense*)
- Himalayan knotweed, (*Polygonum polystachyum*)
- Hoary Alyssum, (*Berteroa incana*)
- Houndstongue, (*Cynoglossum officinale*)
- Japanese Knotweed, (*Polygonum cuspidatum*)
- Kochia, (*Kochia scoparia*)
- Leafy Spurge, (*Euphorbia esula*)
- Longspine Sandbur, (*Cenchrus longispinus*)
- Meadow Knapweed, (*Centaurea jacea* x *nigra*)
- Musk Thistle, (*Carduus nutans*)
- Orange Hawkweed, (*Hieracium aurantiacum*)
- Oxeye Daisy, (*Leucanthemum vulgare*)
- Purple Loosestrife, (*Lythrum salicaria*)
- Perennial Pepperweed, (*Lepidium latifolium*)
- Perennial Sowthistle, (*Sonchus arvensis* ssp. *Arvensis*)
- Puncturevine, (*Tribulus terrestris*)
- Rush Skeletonweed, (*Chondrilla juncea*)
- Russian Knapweed, (*Acroptilon repens*)
- Spotted Knapweed, (*Centaurea biebersteinii*)
- Scotch Thistle, (*Onopordum acanthium*)
- Scotch Broom, (*Cytisus scoparius*)
- Tansy Ragwort, (*Senecio jacobaea*)
- Wild Carrot, (*Daucus carota*)

Franklin County

- Canada Thistle (*Cirsium arvense*)
- Dalmatian Toadflax (*Linaria dalmatica* spp *dalmatica*)
- Diffuse Knapweed (*centaurea diffusa*)
- Kochia (*Kochia scoparia*)
- Meadow Knapweed (*Centaurea jacea* x *nigra*)
- Musk Thistle (*Carduus nutans*)
- Myrtle Spurge (*Euphorbia myrsinites*)
- Perennial Pepperweed (*Lepidium latifolium*)
- Perennial Sowthistle (*Sonchus arvensis* ssp. *Arvensis*)
- Puncturevine (*Tribulus terrestris*)
- Purple Loosestrife (*Lythrum salicaria*)
- Rush Skeletonweed (*Chondrilla juncea*)
- Scotch Thistle (*Onopordum acanthium*)
- Spotted Knapweed (*Centaurea biebersteinii*)
- White Top/Hoary Cress (*Brassicaceae*)
- Yellow Nutsedge (*Cyperus esculentus*)
- Yellow Starthistle (*Centaurea solstitialis*)

Class C

Class C noxious weeds are widely established throughout Washington or may impact the agricultural industry. Counties may require control of certain Class C weeds at their own discretion. Unless otherwise required, WSDOT classifies most Class C species as “nuisance” weeds and provides control as part of the general roadside vegetation management program. Nuisance weeds and treatment options are described in Section 2.4 of this document.

Class C noxious weeds designated for control within Adams, Spokane and Whitman counties, and are currently present within WSDOT right-of-way include:

Adams County:

- Canada Thistle (*Cirsium arvense*)
- Cereal rye (*Secale cereale*)

Spokane County

- Canada Thistle (*Cirsium arvense*)
- Hoary Cress, (*Cardaria draba*)

Whitman County

- Canada Thistle (*Cirsium arvense*)
- Bull Thistle (*Cirsium arvense*)

Franklin County

- Babies Breath (*Gypsophila paniculata*)
- Bull Thistle (*Cirsium arvense*)
- Canada Thistle (*Cirsium arvense*)
- Cereal rye (*secale cereale*)
- Poison Hemlock (*Conium maculatum*)
- St. Johnswort (*Hypericum perforatum*)

2.3.2. Methods

Control of noxious weed species can be very difficult; therefore it is important to incorporate the concepts of IVM. Regardless of the specific method used to control noxious weeds it is important to fully understand the life cycle of the weeds that are being controlled.

- **Chemical:** In many cases herbicides are used as a means of early control due to levels of infestations and area requiring control. Timing of herbicide treatments within the growth stage of the weed species is critical to achieving complete control of perennial species.
- **Mechanical:** Mowing, blading, disking and hand pulling are often used in conjunction with other control methods. Mowing considerations are covered in section 2.2 of this document.
- **Biological:** Biological controls are being used widely throughout WSDOT within the operating right of way. It is important to consider climate, level of infestation and available control species when selecting an appropriate biological control. It is also imperative that biocontrols be placed in an area that won't be adversely effected by mechanical or chemical control methods.
- **Revegetation/Enhancement:** A variety of other measures may be taken to promote natural vegetative competition through seeding, planting, and soil enhancement. Documentation of these methods and related success is essential to the success of these long-term control measures. IVM forms will be completed for each of these sites and are located in Appendix E.

2.3.3. Action Thresholds:

The action threshold for noxious weed control is met whenever seed production of a noxious weed is imminent. WSDOT is required by State law to control and prevent the spread of all noxious weeds on WSDOT right-of-way (RCW 17.10.040). Control efforts will be initiated prior to the noxious weed producing seed.

2.3.4. Prescriptions

See **Appendix A, IVM Prescriptions, Noxious Weed Control**

2.3.5. Species Location

See **Appendix C, Noxious Weed Locations, Table 2.2.**

2.4. Nuisance Weed Control

2.4.1. Policy and objectives

Nuisance weed control, while not required by state law, provides many positive benefits to the overall condition of the roadside including:

- Stabilization of shoulders and banks
- Improved storm water treatment
- Protection and enhancement of native plant communities
- Reduces spread of weeds
- Enhances visual quality

Depending on crew availability and budget, nuisance weeds will be controlled throughout the roadsides of Eastern Region, Area 2 as part of the overall Integrated Vegetation Management process. Priority control

measures will be given to new infestations or those infestations that threaten desirable roadside vegetation. In some cases, where practical, nuisance weed infestations may be treated in conjunction with noxious weeds.

For established infestations currently identified in this plan, weed populations will be contained and gradually reduced by applying appropriate vegetation management prescriptions as funds and resources are available. Control options range from manual cutting, mechanical removal, revegetation and biological control, to targeted selective herbicide application, or combinations thereof.

2.4.2. List of species currently present

Numerous Class C nuisance weeds occur throughout Eastern Region, Area 2 within WSDOT right of way that are not targeted for control. In some cases they are controlled incidentally or for site-specific reasons.

Common nuisance weed species that occur on WSDOT right of way within Eastern Region, Area 2 include:

- Mustard Species
- Common Mullen (*Verbascum thapus*)
- Russian Thistle (*Salsola iberica sennen*)
- Cereal Rye (*Secale cereale*)
- Mares Tail (*Conyza canadensis*)
- China Lettuce (*Lactuca serriola*)

2.4.3. Methods

Control measures for nuisance weeds are very similar to those of noxious weeds, see Section 2.3.2 and are dependent on available resources. Species that are wide spread are treated routinely throughout the season, often controlled incidental to noxious weeds.

2.4.4. Action Threshold For Nuisance Weed Control

Action will be taken at the discretion of the area Superintendent. WSDOT is not required to control nuisance weeds, however, action is advised where funding is available and one or more of the following instances occur as a result of a nuisance weed infestation.

- Impact to adjacent land owners
- Impact to desirable vegetation
- Nuisance weed presence reduces effectiveness of noxious weed control due to height or density
- New infestation where local control is achievable

2.4.5. Prescriptions

See **Appendix A, IVM Prescriptions, Nuisance Weed Control**

2.4.6. Species Location

See **Appendix C, Nuisance Weed Locations, Table 2.4.**

2.5. Tree and Brush Control

2.5.1. Policy and Practice

Trees and brush are controlled for safety reasons including preservation of sight distance at curves and intersections, and for visibility of signs, and preventing trees with large trunk diameter from growing too close to traffic lanes.

- Native large shrub and small tree species should be allowed to grow and mature in Zones 2 and 3 and side trimmed if they encroach on site distance or other traffic operational requirements.
- Large coniferous or deciduous tree species such as Douglas fir, bigleaf maple, alder, or cottonwood left to grow in Zone 2, can reach substantial size over a relatively short period of time and should be removed when young.

2.5.2. Methods

Removal of undesirable tree and brush species is accomplished in a variety of manners including hand cutting, herbicide applications, hand pulling, mowing or combinations thereof. A thorough understanding of the species to be controlled and consideration of proper timing is important with any of these control methods to reduce damage, minimize visual impact and be cost effective. Below are specific considerations for the various control methods:

- **Mowing:** In many cases it is effective to mow back the majority of the existing vegetation to the outside edge of Zone 2, then follow with spot mowing or herbicide treatments of undesirable species as needed, leaving desirable species to form a competitive cover.
- **Hand Cutting:** When possible, hand cuttings can be chipped in place and applied to the roadside as mulch where needed. This can be used to improve soils, reduce erosion and improve vegetation.
- **Timing:** Consideration should be given to the visual impact of trimming as well as effectiveness of the operation. Chemical control will not be used on deciduous trees and shrubs until after the first of September, except for cut stump treatments.
- **Chemical Control:** Chemical control will not be used on conifers greater than 2' in height.
- **Transplanting:** Whenever possible, safe and practical, seedling trees will be dug or pulled by hand and transplanted to areas where their growth will be beneficial and appropriate. Agreements may be signed to allow private citizens or groups to collect seedlings for use as transplants.
- **Prescriptions:** See **Appendix A**, IVM Prescriptions, Tree and Brush Control

3. SPECIAL CONSIDERATIONS

Special Maintenance Areas include any sections of roadside where there are unique maintenance requirements or existing arrangements with any external organizations. Special Maintenance Areas may include interchanges, community entrances or enhancement areas, areas maintained by cities, bicycle paths, storm water retention ponds, state parks, wellheads, environmentally sensitive areas, school zones, roadsides adjacent to individual properties with current or annual no-spray agreements and new technologies.

3.1. Herbicide Sensitive Areas

3.1.1. Policy and objectives

There are a number of herbicide sensitive areas located within the region where herbicide use will be limited to reduce potential risk to the environment.

Herbicide applications made for noxious or nuisance weed control, maintenance of vegetation at the pavement edge, or applications made in combination with mechanical methods for control of undesirable trees will be made in accordance with the court order "Washington Toxics Coalition vs. EPA"

<http://agr.wa.gov/PestFert/EnvResources/Buffers.htm#maps>

The Washington State Department of Agriculture maintains a list of individuals who have been diagnosed with Multiple Chemical Sensitivity (MCS). WSDOT is required by law to notify these individuals when making herbicide applications to roadside locations if the highway right of way is adjacent to their property and their principle residence is within one-half mile of the application. Concerned individuals can obtain further information by contacting the area maintenance office in Colfax at 509.397.3051.

3.2. Restoration Projects and Test Plots

3.2.1. Policy and objectives

Test plots are established as part of an on-going effort to refine the Integrated Vegetation Management process. Test plots will be used to evaluate revegetation techniques, herbicide selection, species selection, evaluate soil amendments and other research activities as needed. Test plot goals, locations and duration are identified and recorded in **Appendix D**. SR 195, Colton South has been identified as a zone 1 test within Eastern Region, Area 2 for implementation in 2007.

3.2.2. Locations by Milepost, See Appendix D, Test and Restoration Plots

3.3. Adopt-a-Highway and Owner Will Maintain Agreements

3.3.1. Policy and objectives

The Adopt-a-Highway program allows private citizens, volunteer groups, and businesses an opportunity to contribute to an enhanced roadside appearance through direct partnership with WSDOT. The program improves the overall appearance of the roadside primarily through litter control, although other activities that improve the visual and environmental condition of the roadside are permitted as well including limited planting and maintenance of specific areas. Other partnership opportunities are possible through general permits and agreements. Volunteer groups that do enhancement planting on WSDOT roadsides are typically required to establish and maintain the plantings. Communities may partner with

WSDOT to develop and maintain selected Community Enhancement Areas as described in the Roadside Classification Plan.

Neighboring property owners may enter into an agreement with WSDOT where they take responsibility for the vegetation management activities along the area where their property abuts state right-of-way. These “owner will maintain” agreements are established through a General Permit and are required to be renewed on an annual basis. These agreements are typically implemented in cases where a neighboring property owner desires a higher level of care in front of their business or residence, or prefers maintaining the area to avoid WSDOT herbicide applications near their home or business.

3.3.2. Locations by Milepost

Locations where partnership agreements exist for accomplishment of roadside maintenance are listed in **Appendix D, Special Maintenance Areas, Table 3.0.**

3.4. Environmentally Sensitive Areas

3.4.1. Policy and Objectives

As a state agency, WSDOT is committed to conducting its activities in accordance with the dictates of sound environmental protection practices. This includes pollution prevention, avoidance, minimize and appropriately mitigate adverse environmental impacts, and to comply with all environmental laws and regulations applicable to our business and activities.

Numerous environmentally sensitive areas occur within Eastern Region, Area 2, such as lakes, streams and wetlands. Special care will be taken to avoid and minimize impacts to these resources. Herbicide applications in these areas will follow normal label requirements. Other IVM treatments that take place in these areas, such as mowing or revegetation efforts will be subject to the Regional Road Maintenance Endangered Species Act Program Guidelines.

In compliance with the Regional Road Maintenance Endangered Species Act Program Guidelines, as agreed upon with the National Marine Fisheries Service, WSDOT has identified, mapped and located in the field all highway sections within 300 feet of rivers, wetlands and water bodies.

3.4.2. Locations

Environmentally sensitive areas are identified in the field with green guideposts and identified in an area atlas. For more information on the Regional Road Maintenance ESA Program Guidelines refer to the following website: <http://www.wsdot.wa.gov/maintenance/roadside/esa.htm> or contact Sandy Stephens at 360.705.7853.

3.5. Storm Water Management Facilities

3.5.1. Policy and Objectives

Storm water management facilities include bio-filtration, swales, retention ponds and infiltration ponds.

Storm water management facilities will be managed for noxious and nuisance weeds following the same guidelines mentioned in previous sections. The primary objectives, with regard to vegetation management within these facilities, are to maintain retention and detention functions to improve water quality.

3.5.2. Methods

Noxious weed control will be conducted at all storm water management facilities as necessary. Control of nuisance weeds will be coordinated with nuisance weed control along the adjacent roadside. Trees and brush should be cleared along both sides of the perimeter fencing for a width of approximately 8 feet as needed. Inlets and outfalls should be kept clear of unwanted vegetation and debris as well.

Refer to vegetation management prescriptions for specific weed, tree and brush species in Sections 1 and 2 of this document for timing and control methods.

Currently there are no active storm water management facilities in Eastern Region, Area 2.

3.6. Wetland Mitigation Sites

3.6.1. Policy and Objectives

Wetland mitigation results from unavoidable impacts to naturally occurring wetlands from highway construction. In these cases new wetlands are created on WSDOT right of way and vegetation is managed to provide environmental functions similar to those eliminated in other areas by the highway's presence.

Wetland mitigation sites are carefully monitored for up to 10 years following their creation to ensure compliance with environmental regulation. In most cases vegetation in these sites is planted and established through the construction process so the maintenance actions are not required unless noxious weeds or hazardous trees become an issue. However, it is important that maintenance be aware of the locations of wetland mitigation sites to avoid impacting the required environmental functions of the sites.

Currently there are no known wetland mitigation sites within the operational right of way in Eastern Region, Area 2.

3.6.2. Locations by Milepost

See Appendix D, Special Maintenance Areas, Table 3.0

Routine Maintenance Activities

Zone 1 Maintenance - Annual maintenance, (Option A)

| Location Type | Management Goal | Method | Equipment | Materials | Timing | IVM Follow-up |
|---------------------------------------|-------------------------|------------------------------|---|--|--------|---------------|
| gravel shoulder or guardrail sections | 4' vegetation free zone | annual herbicide application | spray truck w/ fixed nozzle mounted 18" from ground | non-selective residual herbicide Portfolio 4F @ 12 Ozl Diuron 4L 254 Ozl | Spring | none required |

Zone 1 Maintenance - Sensitive Areas (Option B)

| Location Type | Management Goal | Method | Equipment | Materials | Timing | IVM Follow-up |
|---------------------------------------|-------------------------|------------------------------|---|--|--------------------|---------------|
| gravel shoulder or guardrail sections | 4' vegetation free zone | annual herbicide application | spray truck w/ fixed nozzle mounted 18" from ground | non-selective residual herbicide Landmark @ 5 ozl Payload DF @ 8 ozl | Fall and/or Spring | none required |

Noxious Weed Control**Noxious Weed Control - Noxious Broadleaf (Option A)**

| Location Type | Action Threshold | Management Goal | Method | Equipment | Materials | Timing | IVM Follow-up |
|---------------|--------------------------|--|--|--|---|----------------------|--|
| Zones 2-3 | as soon as plants appear | Selective eradication and control of listed noxious weeds. | spot treatment w/ herbicide most effective | tank sprayer equipped with Invert system, Injection system tank mix or back pack sprayer | Amine 4 @ 32 ozl Tordon 22k @ 32 ozl Vanquish @ 8 ozl MSO @ 24 ozl | Early growing season | Reapply as necessary. Seed and fertilize to reduce weed competition See Appendix B |

Noxious Weed Control - Noxious Broadleaf Weeds (Option B)

| Location Type | Action Threshold | Management Goal | Method | Equipment | Materials | Timing | IVM Follow-up |
|---------------|--------------------------|--|--|--|---|----------------------|--|
| Zones 2-3 | as soon as plants appear | Selective eradication and control of listed noxious weeds. | spot treatment w/ herbicide most effective | tank sprayer equipped with Invert system, Injection system tank mix or back pack sprayer | Curtail 64 ozl Vanquish @ 16 ozl Spreader 90 @ 16 ozl | Early growing season | Reapply as necessary. Seed and fertilize to reduce weed competition See Appendix B |

Noxious Weed Control - Noxious Broadleaf Weeds Buffer Areas (Option D)

| Location Type | Action Threshold | Management Goal | Method | Equipment | Materials | Timing | IVM Follow-up |
|---------------|--------------------------|--|--|--|---|----------------------|--|
| Zones 2-3 | as soon as plants appear | Selective eradication and control of listed noxious weeds. | spot treatment w/ herbicide most effective | tank sprayer equipped with Invert system, Injection system tank mix or back pack sprayer | Savage @ 32 ozl Vista @ 16 ozl MSO @ 16 ozl | Early growing season | Reapply as necessary. Seed and fertilize to reduce weed competition See Appendix B |

Noxious Weed Control - Weeds Less Than 3" Emerging Grasses

| Location Type | Action Threshold | Management Goal | Method | Equipment | Materials | Timing | IVM Follow-up |
|---------------|--------------------------|--|-----------------|----------------------------|-----------------------------------|----------------------|--|
| Reveg Sites | as soon as plants appear | Selective eradication and control of listed noxious weeds. | Broadcast Spray | tank mix, injection system | Buctril @ 20 ozl R-11 @ 12 ozl | Early growing season | Reapply as necessary to keep weeds from becoming established |

Noxious Weed Control - Broadleaf Weeds in Grasses @ 2 Leaf Stage

| Location Type | Action Threshold | Management Goal | Method | Equipment | Materials | Timing | IVM Follow-up |
|---------------|--------------------------|--|-----------------|----------------------------|---|-----------|--|
| Reveg Sites | as soon as plants appear | Selective eradication and control of listed noxious weeds. | Broadcast Spray | tank mix, injection system | Buctril @ 20 ozl Vista @ 16 ozl R-11 @ 12 ozl | As needed | Reapply as necessary to keep weeds from becoming established |

Noxious Weed Control - Dalmatian toadflax (Biological)

| Location Type | Action Threshold | Management Goal | Method | Equipment | Materials | Timing | IVM Follow-up |
|---------------|--------------------------|--|--|----------------|-------------------|----------------------|---|
| all zones | as soon as plants appear | eradication and control of listed noxious weeds. | Biological Place 2 biocontrol agents (bugs) per plant | hand placement | Mecinus janthinus | Early growing season | Monitor population and reapply as needed document in IVM form |

Noxious Weed Control - Purple loosestrife (Biological)

| Location Type | Action Threshold | Management Goal | Method | Equipment | Materials | Timing | IVM Follow-up |
|---------------|--------------------------|--|--|----------------|----------------------------|----------------------|---|
| all zones | as soon as plants appear | eradication and control of listed noxious weeds. | Biological Place 2 biocontrol agents (bugs) per plant | hand placement | Galerucella californiensis | Early growing season | Monitor population and reapply as needed document in IVM form |

Noxious Weed Control - Knapweeds (Biological)

| Location Type | Action Threshold | Management Goal | Method | Equipment | Materials | Timing | IVM Follow-up |
|---------------|--------------------------|--|--|----------------|------------------------------------|----------------------|---|
| all zones | as soon as plants appear | eradication and control of listed noxious weeds. | Biological Place 2 biocontrol agents (bugs) per plant | hand placement | Larinus minutus Larinus obtusus | Early growing season | Monitor population and reapply as needed document in IVM form |

Tree and Brush Control

Tree and Brush Control - Alder, Maple, Cottonwood (trees under 6' ht.)

| Location Type | Action Threshold | Management Goal | Method | Equipment | Materials | Timing | IVM Follow-up |
|---------------|---|---|---|--|--|------------------------------|--|
| zone 2 | as soon as seedlings become visible w/in 30' of fog line (no guardrail present) | control of seedling trees that may impact roadside function if allowed to grow. | selective foliar treatment w/ herbicide | truck mounted sprayer where possible, backpack sprayer where necessary | Garlon 3A w/ Redi-vert at label rate. Krenite S on alder at recommended label rates | late fall to avoid brown out | Reapply as necessary. Seed and fertilize to reduce weed competition See Appendix B |

Tree and Brush Control - Alder, Maple, Cottonwood (trees over 6' ht.)

| Location Type | Action Threshold | Management Goal | Method | Equipment | Materials | Timing | IVM Follow-up |
|---------------|---|--|--|---|--|---------|--|
| zone 2 | whenever trees are likely or have potential to grow and fall on the highway | control of young trees that may impact roadside function if allowed to grow. | hand cutting, treatment of cut surface w/ herbicide chip debris in zone 2 | power saws, loppers, chipper, backpack or hand-held sprayer | Garlon 4 at label rate for cut-stump treatment | anytime | Reapply as necessary. Seed and fertilize to reduce weed competition See Appendix B |

Tree and Brush Control - Conifers (trees under 2' ht.)

| Location Type | Action Threshold | Management Goal | Method | Equipment | Materials | Timing | IVM Follow-up |
|---------------|---|---|-------------------------------|---|---|---------------------------------------|--|
| zone 1 or 2 | as soon as seedlings become visible w/in 30' of fog line (no guardrail present) | control of seedling trees that may impact roadside function if allowed to grow. | foliar treatment w/ herbicide | tank sprayer where possible, backpack sprayer where necessary | Garlon 4, Escort, or Krenite S at labelled rates apply w/ Redi-vert when possible | mid summer when new growth is present | Reapply as necessary. Seed and fertilize to reduce weed competition See Appendix B |

Tree and Brush Control - Conifers (trees under 2' ht.)

| Location Type | Action Threshold | Management Goal | Method | Equipment | Materials | Timing | IVM Follow-up |
|---------------|---|---|--|----------------------|------------|---------|--|
| zone 1 or 2 | as soon as seedlings become visible w/in 30' of fog line (no guardrail present) | control of seedling trees that may impact roadside function if allowed to grow. | hand pulling transplant if possible | Weed Wrench optional | Mechanical | anytime | Reapply as necessary. Seed and fertilize to reduce weed competition See Appendix B |

Tree and Brush Control - Conifers (trees over 2' ht.)

| Location Type | Action Threshold | Management Goal | Method | Equipment | Materials | Timing | IVM Follow-up |
|---------------|---|--|--|----------------------|------------|---------|--|
| zone 2 or 3 | whenever tree has been identified as defective or likely to fall on the highway | control of trees that may impact roadside function if allowed to grow. | hand cutting chip debris in zone 2 if necessary | power saws, chipper, | Mechanical | anytime | Reapply as necessary. Seed and fertilize to reduce weed competition See Appendix B |

Nuisance Weed Control

Nuisance Weed Control - Broadleaf Weeds (A)

| Location Type | Action Threshold | Management Goal | Method | Equipment | Materials | Timing | IVM Follow-up |
|--|---|---|-------------------------------|--|---|---------------|--|
| all zones new or limited infestations | When infestation impacts private, public resources (dependent on available resources) | minimize populations and prevent further spread of nuisance weeds | foliar treatment w/ herbicide | truck mounted sprayer where possible, backpack sprayer where necessary | Amine 4 @ 32 ozl Tordon 22k @ 32 ozl Vanquish @ 8 ozl MSO @ 24 ozl | prior to seed | Reapply as necessary. Seed and fertilize to reduce weed competition See Appendix B |

Appendix A

Integrated Vegetation Management Prescriptions

Nuisance Weed Control - Broadleaf Weeds (B)

| Location Type | Action Threshold | Management Goal | Method | Equipment | Materials | Timing | IVM Follow-up |
|---|--|---|----------------------------------|--|--|------------------|---|
| all zones new or limited infestations | When infestation impacts private, public resources (dependent on available resources) | minimize populations and prevent further spread of nuisance weeds | foliar treatment w/ herbicide | truck mounted sprayer where possible, backpack sprayer where necessary | Curtail 64 ozl Vanquish @ 8 ozl MSO @ 16 ozl | prior to seed | Reapply as necessary. Seed and fertilize to reduce weed competition See Appendix B |

Nuisance Weed Control - Broadleaf Weeds Buffer Areas (D)

| Location Type | Action Threshold | Management Goal | Method | Equipment | Materials | Timing | IVM Follow-up |
|---|--|---|----------------------------------|--|---|------------------|---|
| all zones new or limited infestations | When infestation impacts private, public resources (dependent on available resources) | minimize populations and prevent further spread of nuisance weeds | foliar treatment w/ herbicide | truck mounted sprayer where possible, backpack sprayer where necessary | Savage @ 32 ozd Vista @ 16 ozl MSO @ 16 ozl | prior to seed | Reapply as necessary. Seed and fertilize to reduce weed competition See Appendix B |
| | | | | | | | |

Nuisance Weed Control - Broadleaf and Grass (F)

| Location Type | Action Threshold | Management Goal | Method | Equipment | Materials | Timing | IVM Follow-up |
|---|--|---|----------------------------------|--|--------------------|------------------|---|
| all zones new or limited infestations | When infestation impacts private, public resources (dependent on available resources) | minimize populations and prevent further spread of nuisance weeds | foliar treatment w/ herbicide | truck mounted sprayer where possible, backpack sprayer where necessary | Razor Pro @ 64 ozl | prior to seed | Reapply as necessary. Seed and fertilize to reduce weed competition See Appendix B |

Mowing Prescriptions

Note: Mowing should be accomplished to meet specific goals and objectives specified in the "Management Goal" section below.

Zone 2 Maintenance - Weed seed Control

| Location Type | Management Goals | Method | Equipment | Timing | Planning and Follow-up |
|--------------------------|--|--|-------------------|--|--|
| As needed in Zone 2 or 3 | 1) Limit noxious weed seed production 2) Improve roadside vegetation 3) Control of annual weeds 5) Improve conditions for desirable species | Mow single pass at 10-12 inches Height | mower, attenuator | Mowing should take place late in the growth cycle of the target plant species but prior to seed development. This will limit regrowth and potential seed production. | 1) Communicate goals with operator prior to undertaking operation 2) Inspect after operation is complete to ensure target species are controlled and seeds have not developed |

Zone 2 Maintenance - Crop/Sensitive Area

| Location Type | Management Goals | Method | Equipment | Timing | IVM Follow-up |
|--------------------------|---|--|-------------------|--|--|
| As needed in Zone 2 or 3 | 1) Limit noxious weed seed production 2) Improve roadside vegetation 3) Control of annual weeds 4) eliminate potential risk of herbicide application. 5) Improve conditions for desirable species | Mow single pass at 10-12 inches Height | mower, attenuator | Mowing should take place late in the growth cycle of the target plant species but prior to seed development. This will limit regrowth and potential seed production. | 1) Communicate goals with operator prior to undertaking operation 2) Inspect after operation is complete to ensure target species are controlled and seeds have not developed |

Zone 2 Maintenance-Safety/Sight Distance

| Location Type | Management Goals | Method | Equipment | Timing | IVM Follow-up |
|-----------------------------|--|--|-------------------|--|--|
| As needed in zone 1, 2 or 3 | 1) Improve sight distance for safety 2) Incidental control of annual noxious weeds 3) Incidental control of seed production 5) Improve conditions for desirable species | Mow single pass at 10-12 inches Height | mower, attenuator | Mowing should take place as late in the growing season as possible while still maintaining good sight distance | 1) Communicate goals with operator prior to undertaking operation 2) Monitor area for regrowth and adequate sight distance 3) re-mow as necessary to provide safe sight distance |

Zone 2 Maintenance- Remove Overstory (old weed debris)

| Location Type | Management Goals | Method | Equipment | Timing | IVM Follow-up |
|--------------------------|--|--|-------------------|--|---|
| As needed in Zone 2 or 3 | 1) Remove old vegetation debris in order to control emerging weeds 2) Remove old vegetation debris that may be restricting desirable grasses 3) Improve conditions for desirable species | Mow single pass at 10-12 inches Height | mower, attenuator | Mowing should take place late fall/winter after grass is dormant | 1) Communicate goals with operator prior to undertaking operation |

Zone 2 Maintenance- New Seeding

| Location Type | Management Goals | Method | Equipment | Timing | IVM Follow-up |
|-----------------------------|---|---|-------------------|---|---|
| As needed in Zone 1, 2 or 3 | (1) Reduce weed pressure (2) Improve roadside vegetation (3) Eliminate weed seed source | Mow single pass maintaining deck height above desirable grass | mower, attenuator | Prior to seed set of weed species or when needed to reduce competition with desirable species | 1) Communicate goals with operator prior to undertaking operation 2) Inspect after operation is complete to ensure target species are controlled |

Appendix A Integrated Vegetation Management Prescriptions

Planting Area A

Note: Seed mixes are listed as Pounds Live Seed
not bulk rate.

Planting Perscriptions

Seed Mix 1

(Colfax/Rosalia)

Seed Mix Discription: This is a general roadside seed mix for the
George Vicinity. Additional species may be appropriate for this
area depending on planting location in relation to the roadway, soil
type, and management goals.

| Grass Species | Pounds Pure Live Seed (PLS) Per Acre |
|---|--|
| Bluebunch Wheatgrass "Whitmar" (<i>Pseudoroegneria spicata</i>) | 6.50 |
| Idaho Fesdue "Winchester" (<i>Festuca idahoensis</i>) | 2.66 |
| Mountain Brome "Bromar" (<i>Bromus marginatus</i>) | 5.32 |
| Prairie Junegrass (<i>Koeleria macrantha</i>) | 0.87 |
| Hard Fescue "Durar" (<i>Festuca ovina duriuscula</i>) | 0.65 |
| Total Lbs PLS/Acre (Drill Seed) | 16.00 |
| Total Lbs PLS/Acre (Hydroseed) | 25.00 |

Appendix A Integrated Vegetation Management Prescriptions

| George Vic. Optional Species |
|---|
| Grass Species Basin Wildrye <i>(Elymus cinereus)</i> Needle and Thread Grass <i>(Achillea millefolium)</i> Indian Ricegrass "Nezpar" <i>(Oryzopsis hymenoides)</i> |
| Optional Shrubs and Forb Species Rubber Rabbitbrush <i>(Chrysothamnus nauseosus)</i> Basin Big Sage <i>(Artemesia tridentata)</i> Snowy Buckwheat <i>(Eriogonum niveum)</i> Yarrow <i>(Achillea millefolium)</i> Arrow-leaf Balsamroot <i>(Balsamorhiza sagittata)</i> |

Appendix A Integrated Vegetation Management Prescriptions

Planting Area A

Note: Seed mixes are listed as Pounds Live Seed
not bulk rate.

Planting Perscriptions

Seed Mix 1

(Dusty West)

Seed Mix Discription: This is a general roadside seed mix for the
George Vicinity. Additional species may be appropriate for this
area depending on planting location in relation to the roadway, soil
type, and management goals.

| Grass Species | Pounds Pure Live Seed (PLS) Per Acre |
|---|--|
| Bluebunch Wheatgrass "Wahluke" (<i>Pseudoroegneria spicata</i>) | 7.55 |
| Sandberg Bluegrass "Hanford" (<i>Poa sandbergii</i>) | 1.38 |
| Thickspike Wheatgrass "Schwindemar" (<i>Agropyron trachycaulum</i>) | 4.89 |
| Sand dropseed (<i>Sporobolus cryptandrus</i>) | 0.10 |
| Crested Wheatgrass "Nordan" (<i>Agropyron cristatum</i>) | 2.08 |
| Total Lbs PLS/Acre (Drill Seed) | 16.00 |
| Total Lbs PLS/Acre (Hydroseed) | 25.00 |

Appendix A Integrated Vegetation Management Prescriptions

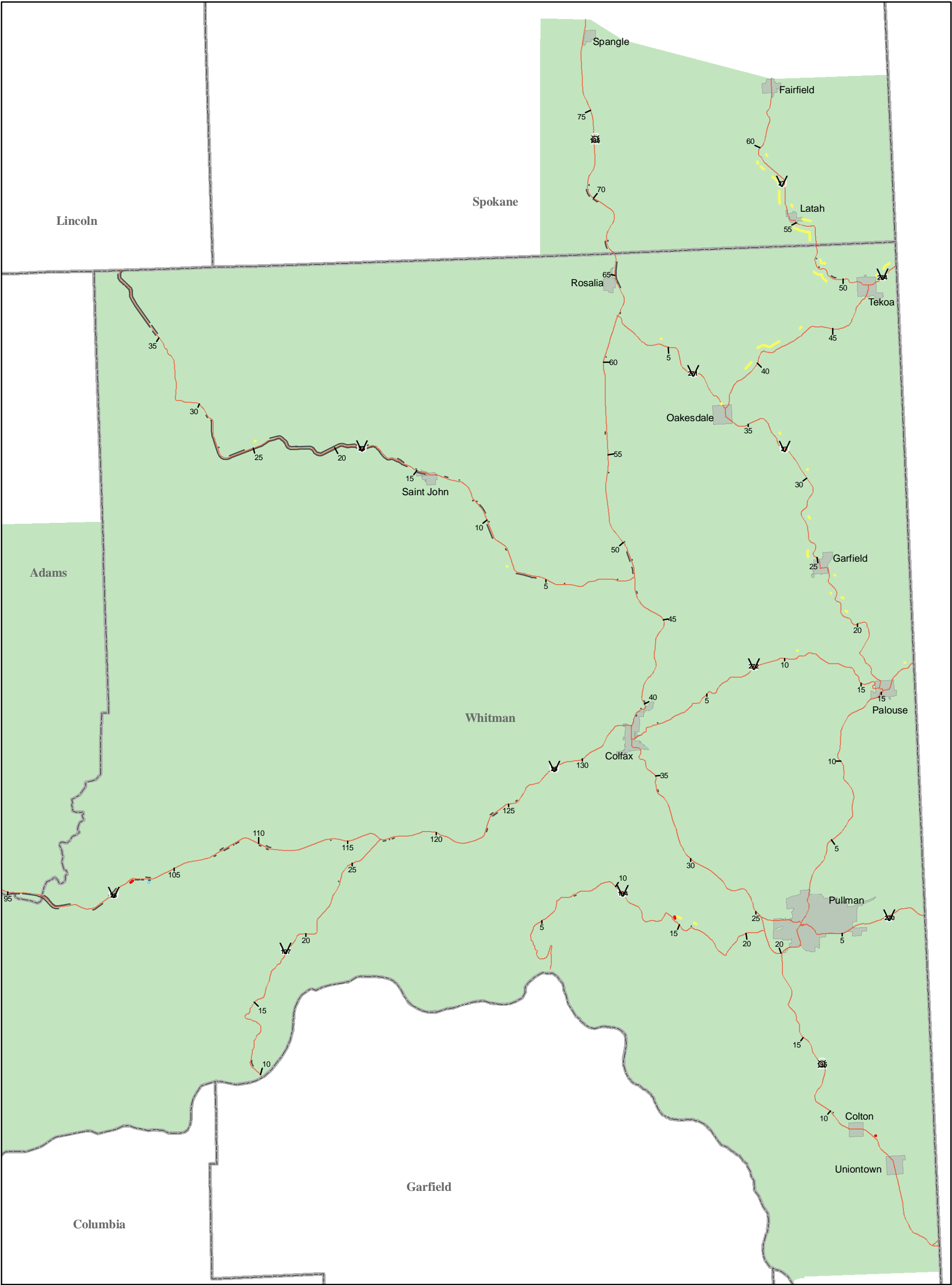
| George Vic. Optional Species |
|---|
| Grass Species Basin Wildrye <i>(Elymus cinereus)</i> Needle and Thread Grass <i>(Achillea millefolium)</i> Indian Ricegrass "Nezpar" <i>(Oryzopsis hymenoides)</i> |
| Optional Shrubs and Forb Species Rubber Rabbitbrush <i>(Chrysothamnus nauseosus)</i> Basin Big Sage <i>(Artemesia tridentata)</i> Snowy Buckwheat <i>(Eriogonum niveum)</i> Yarrow <i>(Achillea millefolium)</i> Arrow-leaf Balsamroot <i>(Balsamorhiza sagittata)</i> |

Herbicides Approved for Use on WSDOT Rights of Way

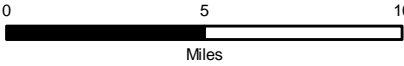
When making herbicide applications:

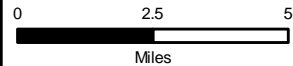
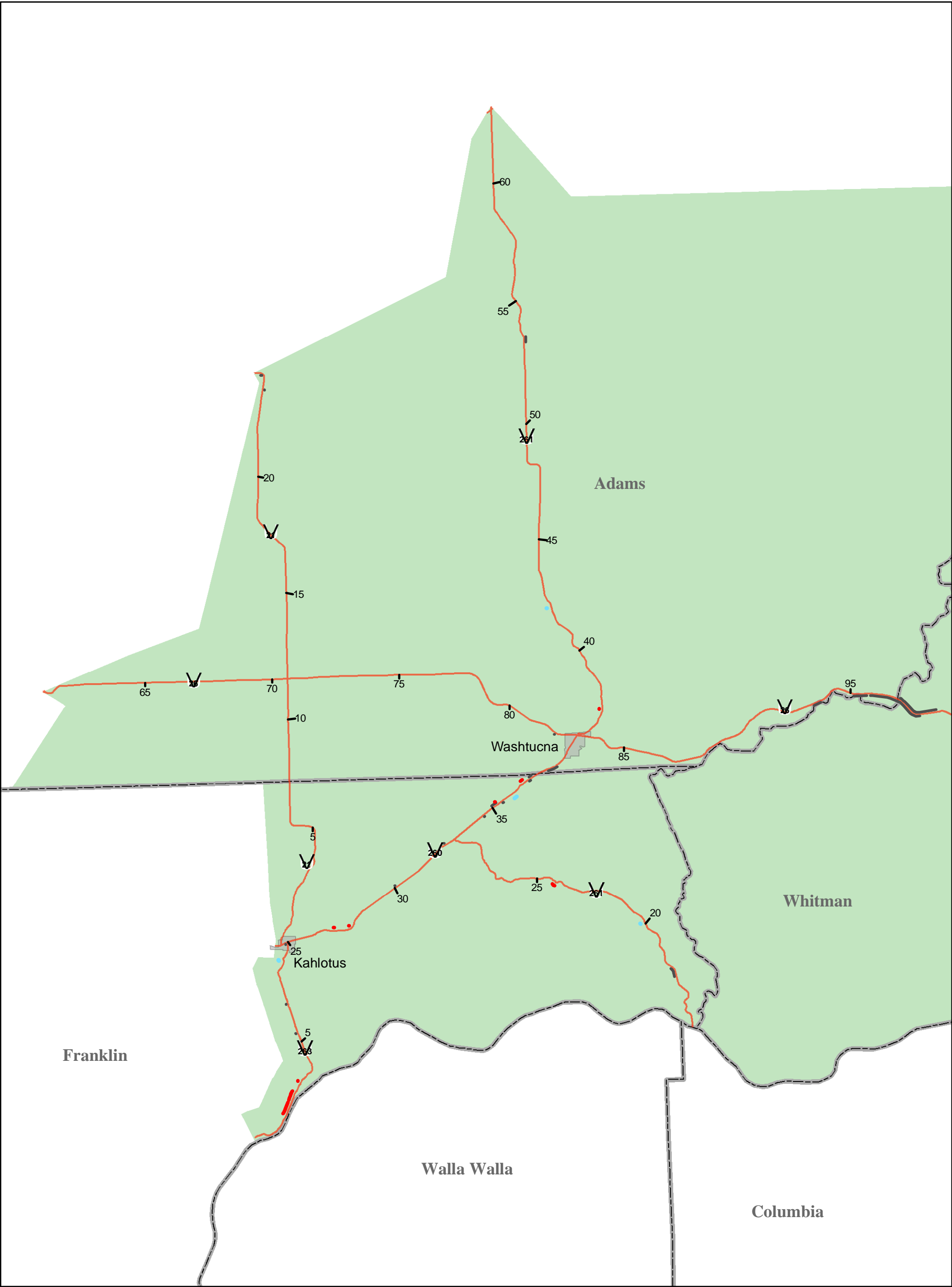
- 1. Always read and follow product labels
- 2. Always use personal protective equipment when mixing, loading, and applying

| Chemical Name | Product Name(s) | Where Used | How/Why Used | Notes/Recommendations | Restrictions | Cautions |
|---------------------|--|--|---|--|--|---|
| 2,4-D | Weedar 64 Amine 4 Veteran 720 Curtail WeedDestroy Platoon Crossbow Escalade Weedmaster Solution Savage Weedone LV4 | Noxious and nuisance weed control, and tree and brush control, Zones 2 and 3 | Selective broadleaf treatment | Ester and acid formulations of 2,4-D may provide a good alternative to amine formulations. A number of the 2,4-D products come premixed with other herbicides. | Amine formulations of 2,4-D are restricted for use within 60' of all water | Amine formulations cause irreversible eye damage and are highly toxic to rainbow trout. All 2,4-D products pose risks when applied near grapes and other sensitive crops. |
| Bromacil | Krovar 1 DF Hyvar | Zone 1 | Nonselective pre-emergent grass and weed control | Krovar and Hyvar are premixed with diuron | <u>Westside</u> - Restricted for use <u>Eastside</u> - Krovar restricted for use within 60' of all water | Bromacil is potentially mobile in soil, use caution if rain is possible. |
| Bromoxynil | Buctril 2EC BroClean Brox 2E | Noxious and nuisance weed control, Zones 2 and 3 | Selective broadleaf treatment | Effective broadleaf weed control without grass seed suppression | <u>Westside</u> - Restricted for use <u>Eastside</u> - Restricted for use within 60' of all water | Highly toxic to fresh water fish |
| Chlorsulfuron | Telar XP Landmark XP | Noxious and nuisance weed control, Zones 2 and 3 | Selective broadleaf treatment | Product highly effective on Canadian thistle and horsetail. Landmark is premixed with Oust. | None | None |
| Clopyralid | Transline Curtail Pathfinder | Noxious and nuisance weed control, Zones 2 and 3 | Selective broadleaf treatment | Curtail is premixed with 2,4-D, Pathfinder is premixed with triclopyr | Curtail and Pathfinder are restricted for use within 60' of all water because of mixture with other restricted herbicides. | Curtail contains 2,4-D amine which causes irreversible eye damage and is highly toxic to rainbow trout |
| Dicamba | Vanquish Veteran 720 | Noxious and nuisance weed control, and tree and brush control, Zones 2 and 3 | Selective broadleaf treatment | Vanquish is the dicamba formulation without 2,4-D | Veteran 720 is restricted for use within 60' of all water because of 2,4-D amine content | Veteran 720 contains 2-4-D amine which causes irreversible eye damage and is highly toxic to rainbow trout |
| Dichlobenil | Norosac 4G Casoron | Ornamental planting beds | Pre-emergent weed control in ground cover beds. Post emergent control of grasses. | Highly effective for pre-emergent control of unwanted weeds in ornamentals | Restricted for use within 60' of all water | Dichlobenil is highly toxic to aquatic insects |
| Diflufenzopyr | Overdrive | Noxious and nuisance weed control, Zones 2 and 3 | Selective broadleaf treatment | None | None | None |
| Diuron | Karmex Diuron 4 L Diuron 80 DF | Zone 1 | Nonselective pre-emergent grass and weed control | Cost effective weed control for Zone 1 in Eastern Washington | <u>Westside</u> - Restricted for use <u>Eastside</u> - Restricted for use within 60' of all water | Highly toxic to fish. |
| Flumioxazin | Payload | Zone 1 | Nonselective pre-emergent grass and weed control | Second year of use in zone 1, still evaluating | Restricted for use within 60' of all salt water | Highly toxic to estuarine invertebrates |
| Fluroxypyr | Vista | Noxious and nuisance weed control, Zones 2 and 3 | Selective broadleaf treatment | None | None | Highly toxic to Eastern Oyster, high surface runoff potential |
| Fosamine | Krenite S | Tree and brush control in Zones 2 & 3 | Selective broadleaf treatment | Effective broadleaf tree control without visual impacts | None | None |
| Glyphosate | Roundup Pro Razor Pro Buccaneer Aquaneat Rodeo Aquamaster | Zone 1, spot spray around shrub and tree plantings, aquatic weed control (Rodeo, Aquamaster) | Nonselective control of all vegetation | Rodeo, Aquamaster and Aquaneat are approved for use in or over water. Aquatic versions of glyphosate products are approved for use with NPDES permit. | None | None |
| Imazapyr | Arsenal Habitat | Zone 1 | Pre and post-emergent non-selective control of all vegetation | Habitat is an aquatic version of Arsenal - good alternative to glyphosate in certain cases | None | High surface runoff potential, potentially mobile in soil if rain is possible. |
| Isoxaben | Gallery 75DF | Turf & Ornamental | Pre-emergent weed control in ground cover beds | Works well by itself or with Ronstar | Restricted for use within 60' of all water | High surface runoff potential |
| Metsulfuron-methyl | Escort XP Metsulfuron Methyl 60 DF | Noxious and nuisance weed control, and tree and brush control, Zones 2 and 3 | Selective broadleaf and conifer treatment | None | None | None |
| Norflurazon | Predict | Zone 1 | Pre-emergent Weed control in Zone 1 and ground cover beds | Good Zone 1 product but may be difficult to keep in suspension | Restricted for use within 60' of all water | High surface runoff potential |
| Oryzalin | Oryzalin A.S. Surflan A.S | Zone 1 Ornamental planting beds | Pre-emergent Weed control in Zone 1 and ground cover beds | Product requires additional rinsing to thoroughly remove residues from empty container | Restricted for use within 60' of all water | Highly toxic to fish |
| Oxadiazon | Ronstar G Ronstar WSP | Turf & Ornamental | Pre-emergent weed control in ground cover beds | Works well by itself or with Gallery | Restricted for use within 60' of all water, gardens, plants bearing edible fruit | Highly toxic to fish |
| Pendimethalin | Pendulum 2G Pendulum Aqua | Zone 1 Turf & Ornamental | Nonselective Pre-emergent grass and weed control | None | <u>Westside</u> - Restricted for use <u>Eastside</u> - Restricted for use within 60' of all water | Highly toxic to fish, high potential for loss on eroded soil |
| Picloram | Tordon | Noxious and nuisance weed control, Zones 2 and 3 | Selective broadleaf treatment | Highly effective for conifer and broadleaf weed control in Eastern Washington | <u>Westside</u> - Restricted for use <u>Eastside</u> - Restricted for use within 60' of all water | Highly mobile in soil and readily adsorbed through roots of desirable trees |
| Pyraflufen | Edict | Noxious and nuisance weed control, Zones 2 and 3 | 2,-4-D substitute, effective on Kochia, Russian thistle | Effective with Roundup for Kochia control | Restricted for use within 60' of all water | Irreversible eye damage, highly toxic to Rainbow Trout |
| Sulfentrazone | Portfolio | Zone 1 | Nonselective pre-emergent grass and weed control | New product available for use in 2006 | <u>Westside</u> - Restricted for use <u>Eastside</u> - Restricted for use within 60' of all water | High surface runoff potential, potentially mobile in soil if rain is possible. |
| Sulfometuron-methyl | Oust Landmark XP | Zone 1 | Nonselective pre/post emergent grass and weed control | Landmark is premixed with Telar | None | None |
| Tebuthiuron | Spike 80DF | Zone 1 | Nonselective pre-emergent grass and weed control | None | <u>Westside</u> - Restricted for use <u>Eastside</u> - Restricted for use within 60' of all water | High surface runoff potential, potentially mobile in soil if rain is possible. |
| Triclopyr Amine | Garlon 3A | Noxious and nuisance weed control, and tree and brush control, Zones 2 and 3 | Selective broadleaf treatment | None | None | Irreversible eye damage |
| Triclopyr Ester | Garlon 4 Crossbow Pathfinder | Noxious and nuisance weed control, and tree and brush control, Zones 2 and 3 | Selective broadleaf treatment | Works well for invert applications. Crossbow is premixed with 2,4-D, Pathfinder with clopyralid | Restricted for use within 60' of all water | Highly toxic to fish |

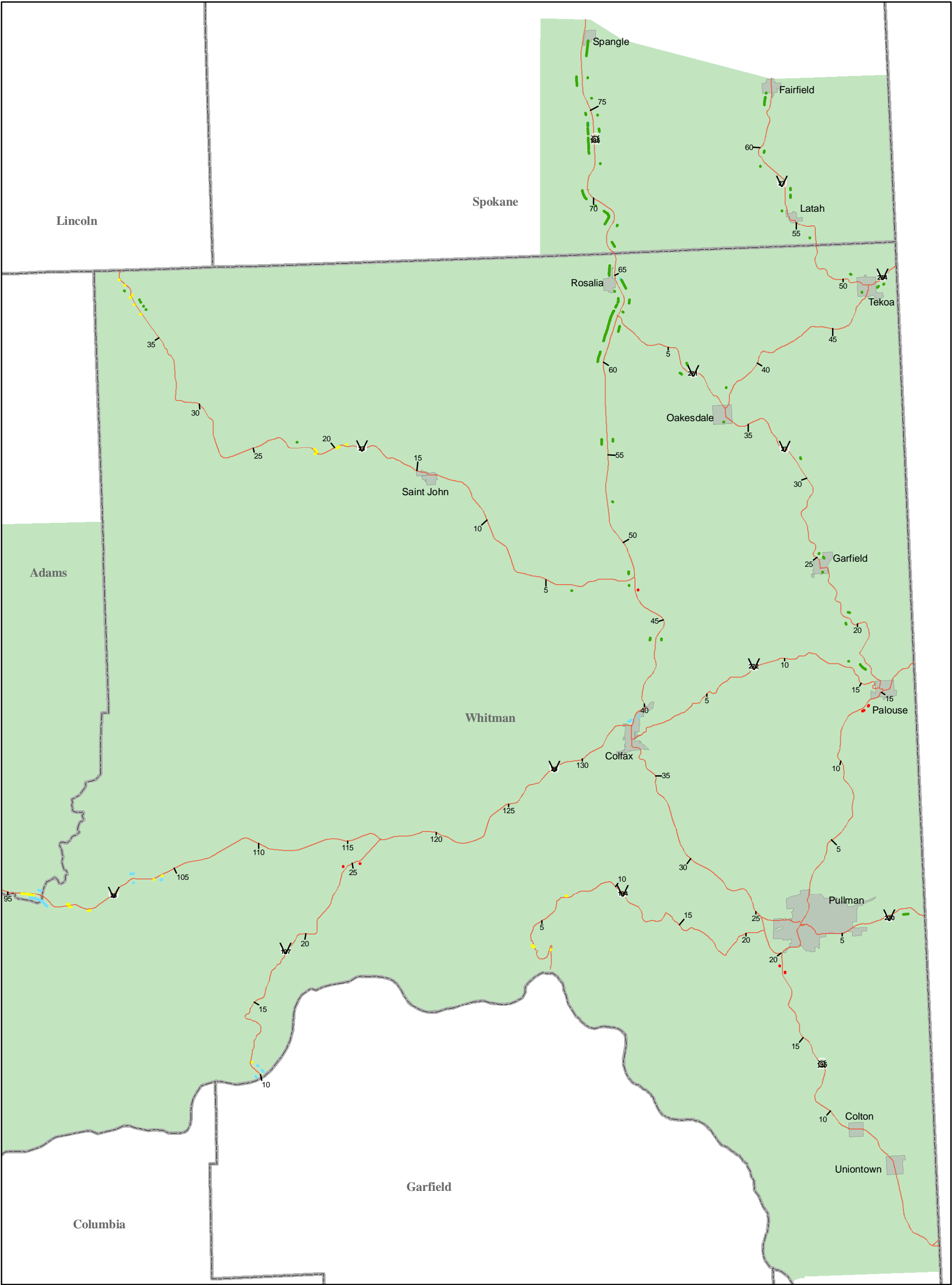


| | |
|--------------------|----------------------|
| Annual Bugloss | 70 Mile Post Marker |
| Leafy Spurge | State Routes |
| Oxeye Daisy | City Limits |
| Rush Skeletonweed | County Boundaries |
| Yellow Starthistle | ER area 2 |



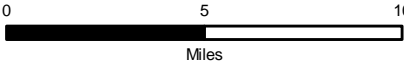


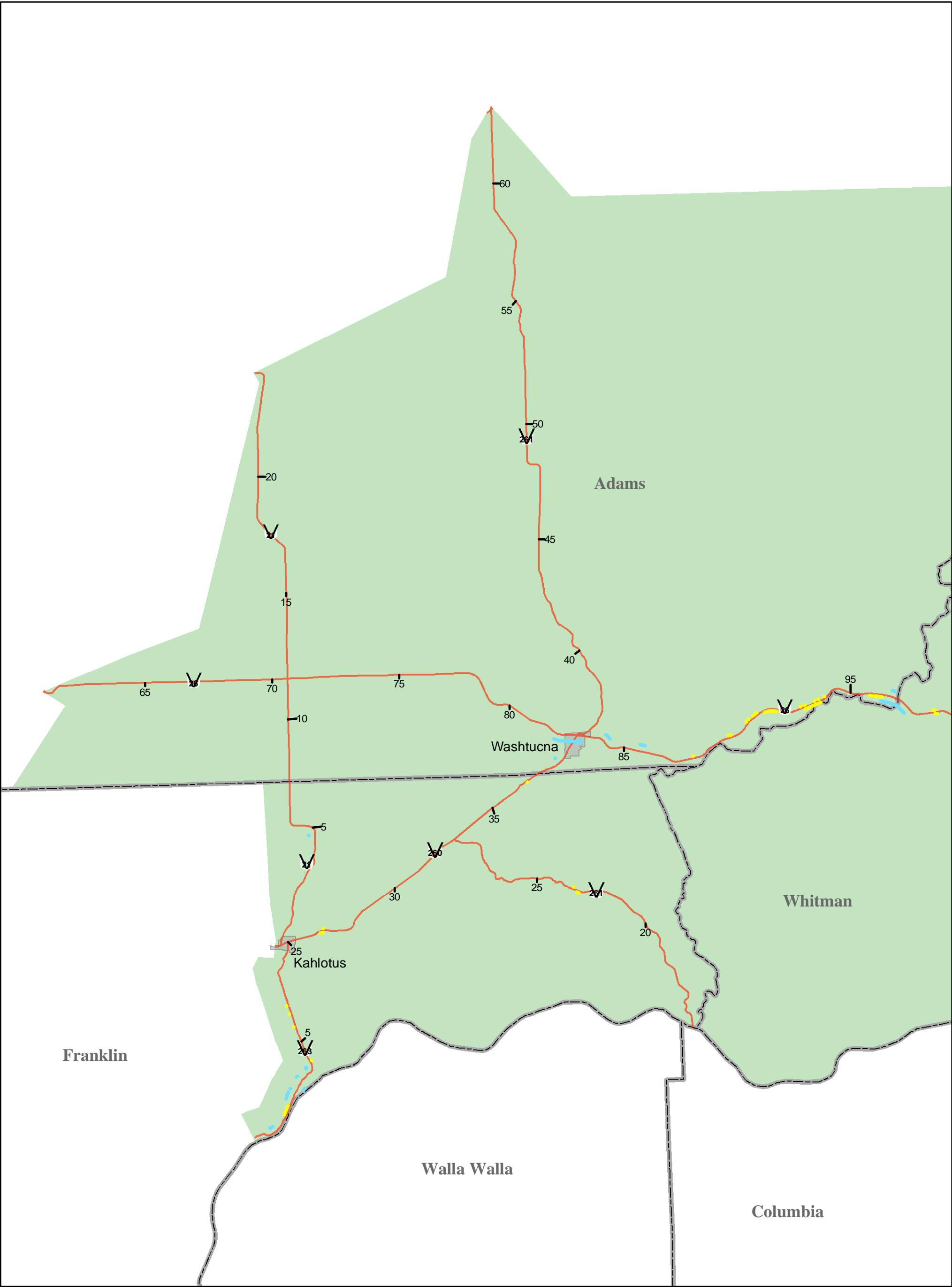
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|--------------------|---------------------|
| Annual Bugloss | 70 Mile Post Marker |
| Leafy Spurge | State Routes |
| Oxeye Daisy | City Limits |
| Rush Skeletonweed | County Boundaries |
| Yellow Starthistle | ER area 2 |



| | |
|----------------------|-------------------|
| Dalmatian Toadflax | Mile Post Marker |
| Knapweed | State Routes |
| Musk Thistle | City Limits |
| Perennial Pepperweed | County Boundaries |
| Scotch Thistle | ER area 2 |

Appendix C:
Eastern Region Area 2
Noxious Weed Locations
Map 3 of 4





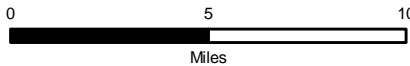
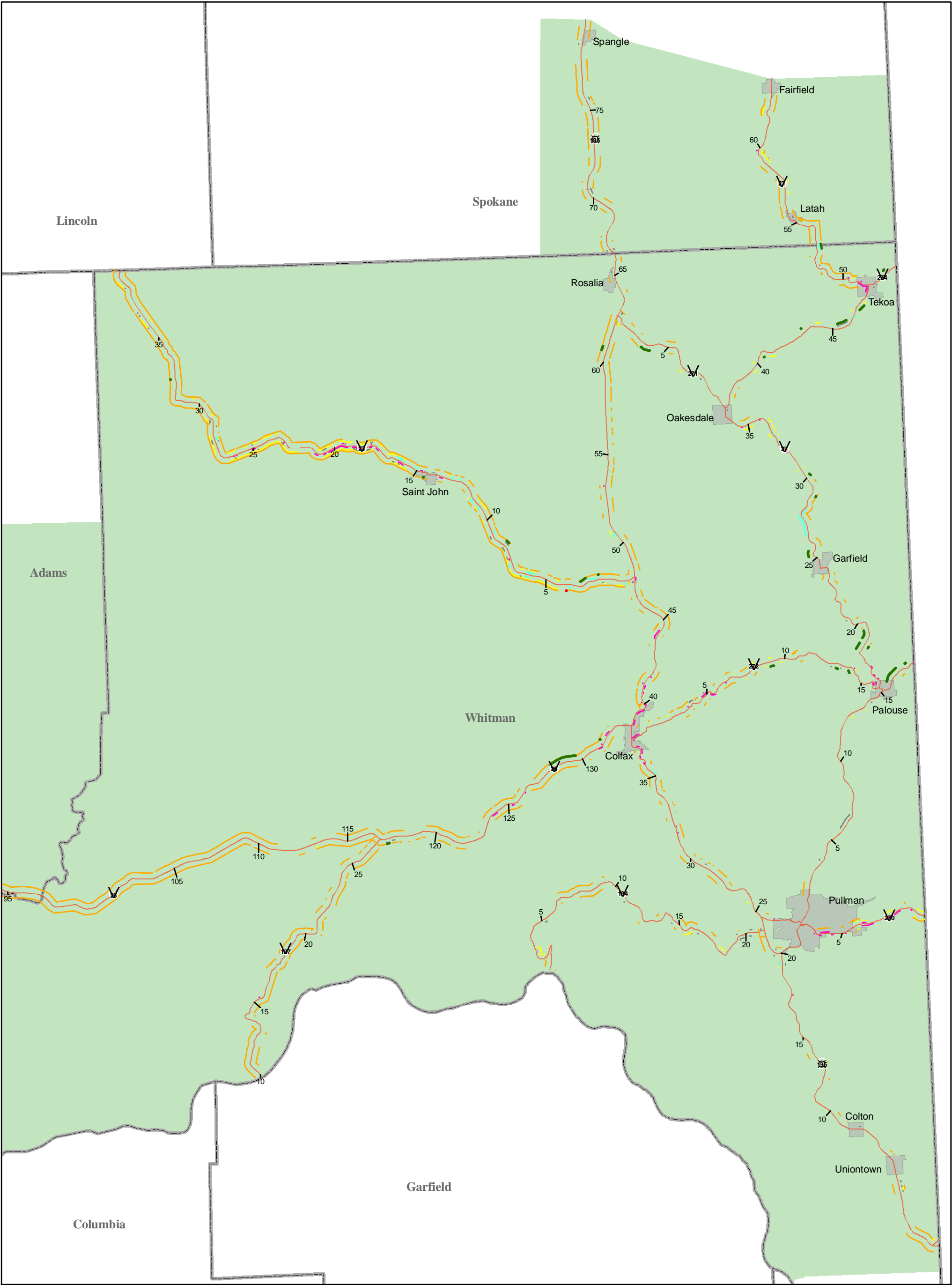
0 2.5 5
Miles

Washington State
Department of Transportation

| | |
|----------------------|-------------------|
| Dalmatian Toadflax | Mile Post Marker |
| Knapweed | State Routes |
| Musk Thistle | City Limits |
| Perennial Pepperweed | County Boundaries |
| Scotch Thistle | ER area 2 |

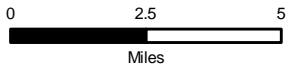
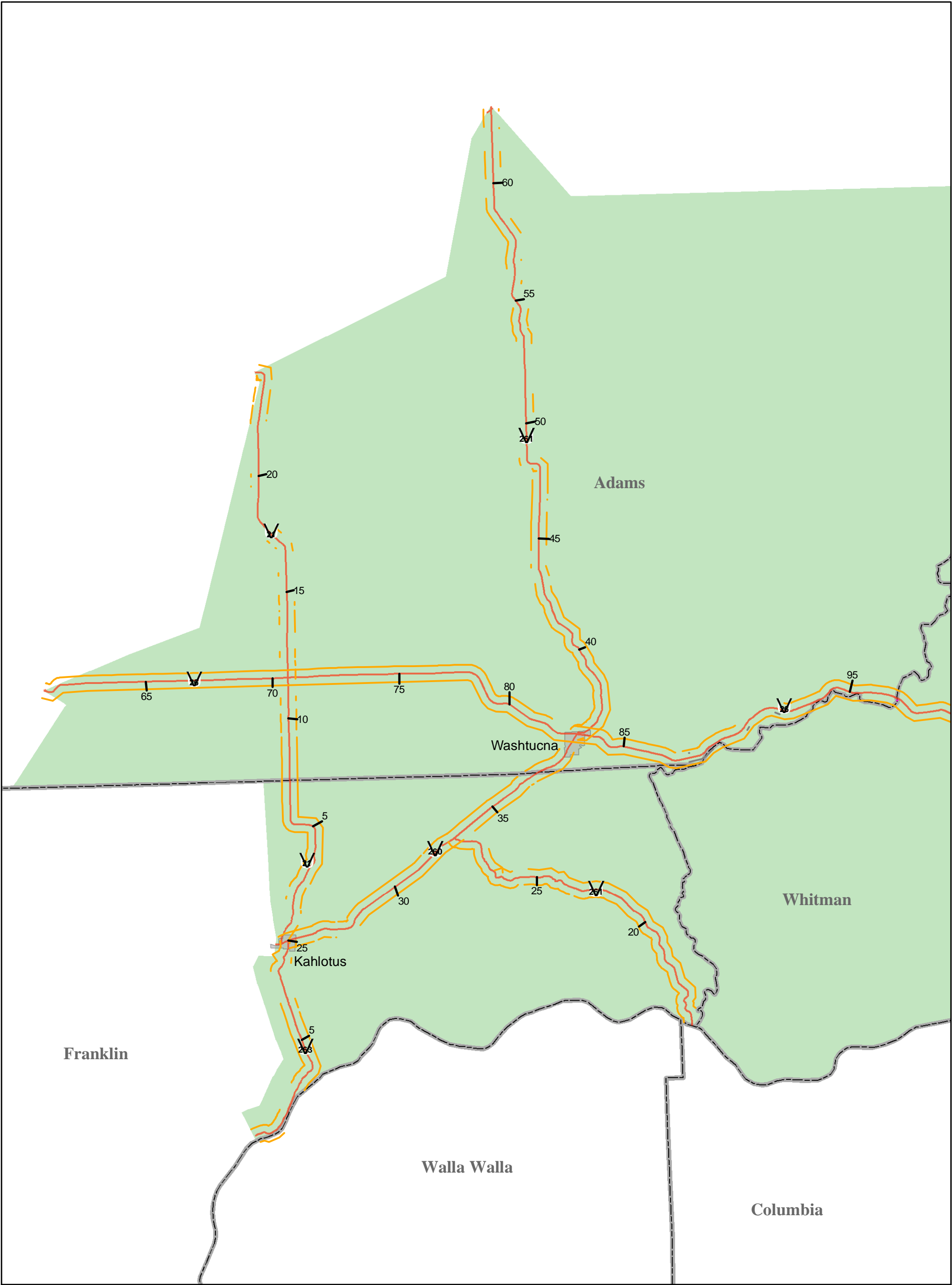
Appendix C:
Eastern Region Area 2
Noxious Weed Locations
Map 4 of 4

October 2006

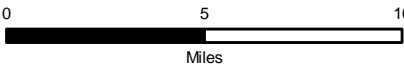
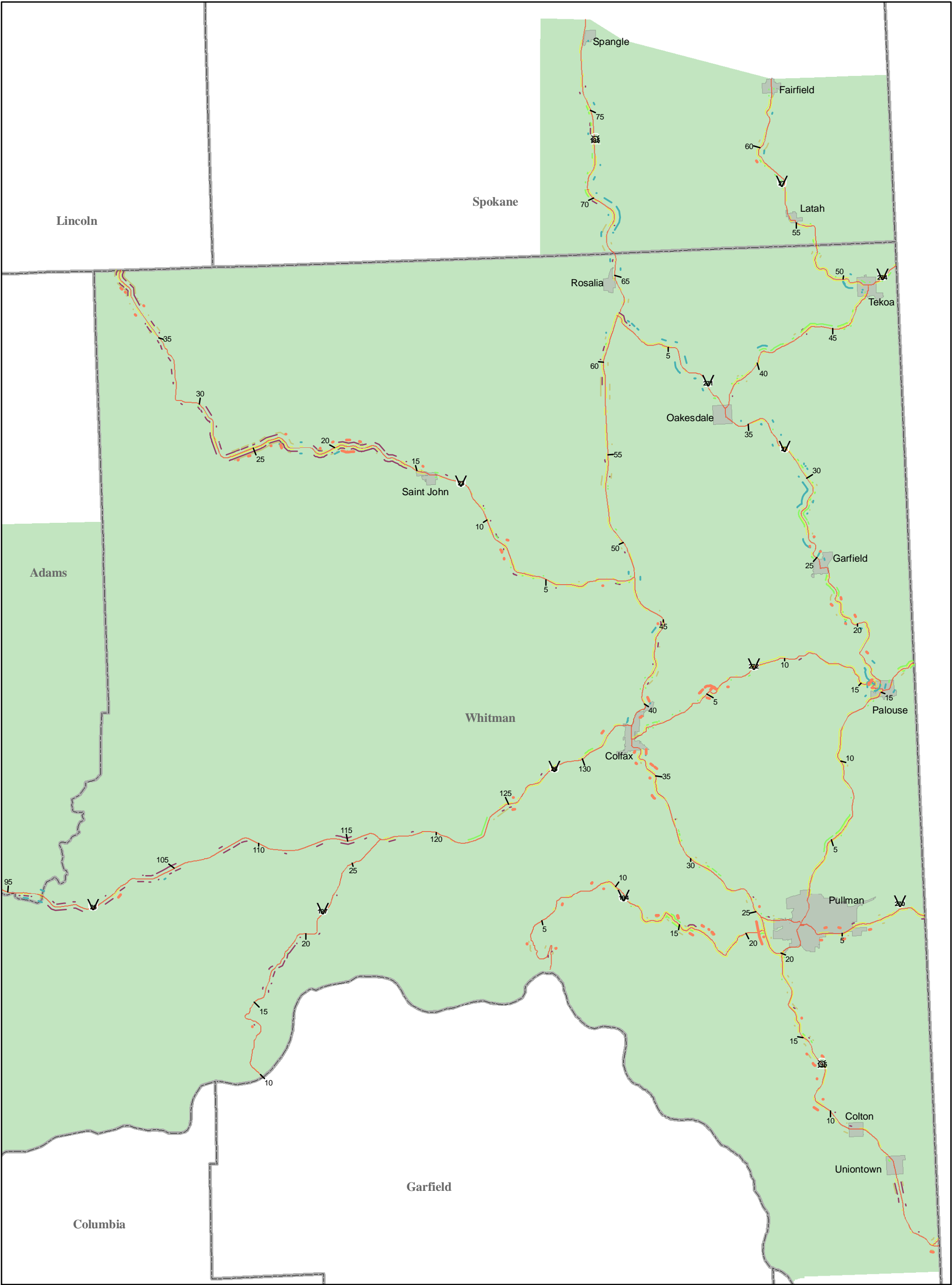


| | | |
|--------------|---------------------|-------------------|
| Lambsquarter | Poison Hemlock | State Routes |
| Bedstraw | Bull Thistle | City Limits |
| Sowthistle | Russian Thistle | County Boundaries |
| Tarweed | 70 Mile Post Marker | ER area 2 |

Appendix C:
Eastern Region Area 2
Nuisance Weed Locations
Map 1 of 6

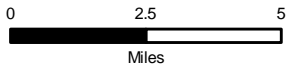
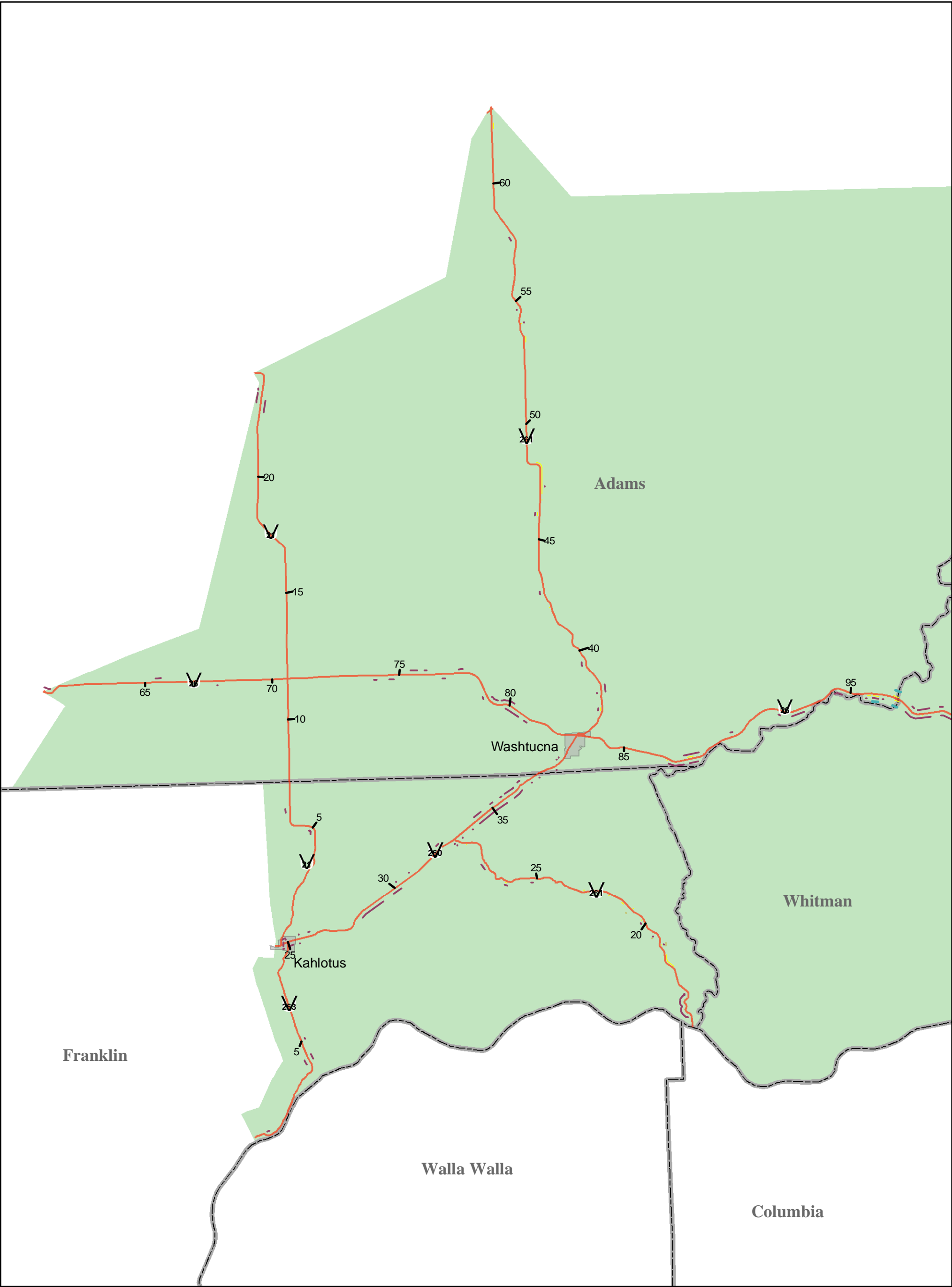


| | | |
|--------------|---------------------|-------------------|
| Lambsquarter | Poison Hemlock | State Routes |
| Bedstraw | Bull Thistle | City Limits |
| Sowthistle | Russian Thistle | County Boundaries |
| Tarweed | 70 Mile Post Marker | ER area 2 |



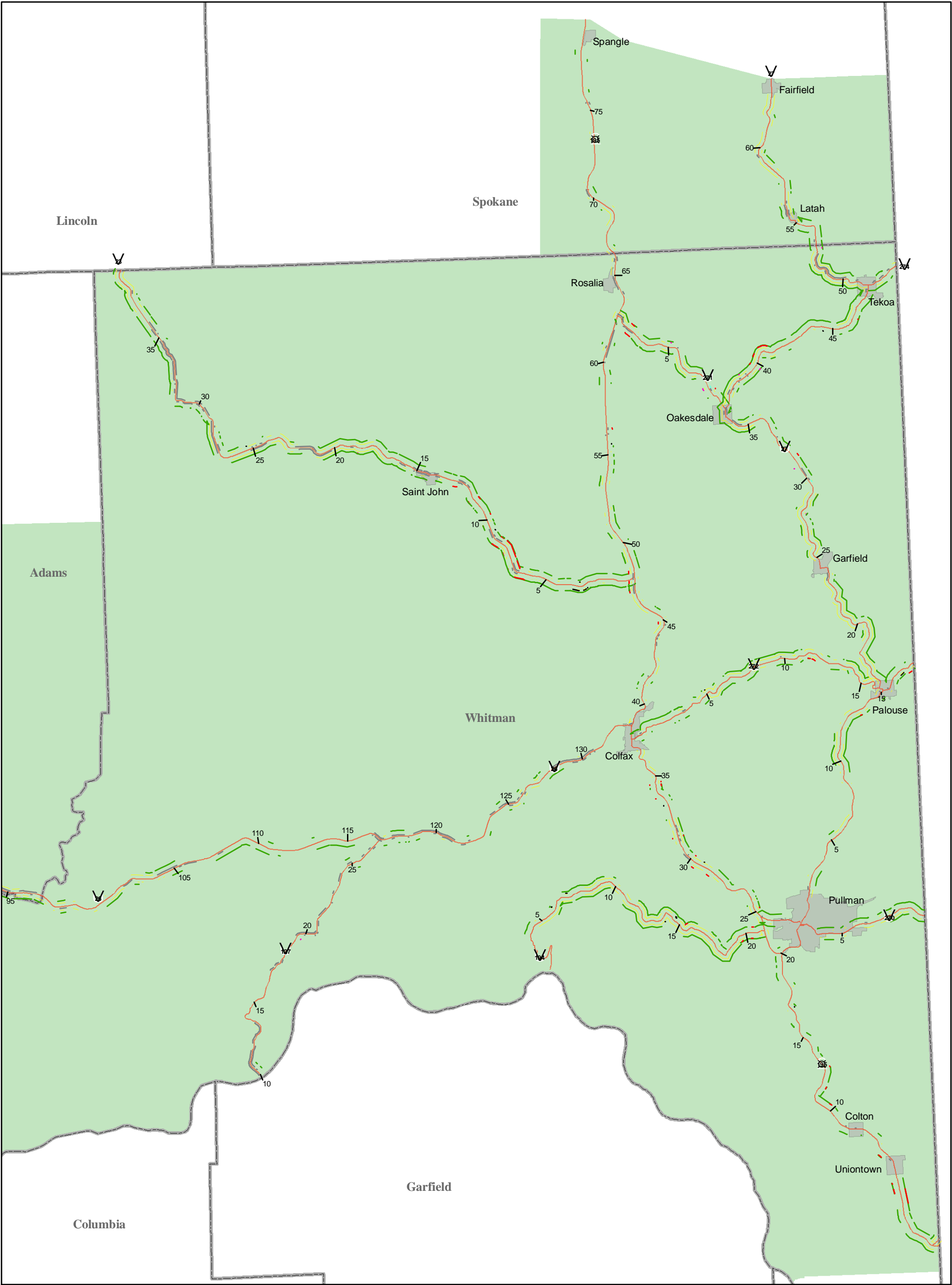
| | | |
|---------------|------------------|-------------------|
| Ragweed | Morning Glory | State Routes |
| Teasel | Marestalk | City Limits |
| Common Tansy | Canada Thistle | County Boundaries |
| St. Johnswort | Mile Post Marker | ER area 2 |

Appendix C:
Eastern Region Area 2
Nuisance Weed Locations
Map 3 of 6



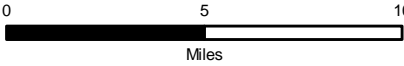
| | | |
|---------------|------------------|-------------------|
| Ragweed | Morning Glory | State Routes |
| Teasel | Marestalk | City Limits |
| Common Tansy | Canada Thistle | County Boundaries |
| St. Johnswort | Mile Post Marker | ER area 2 |

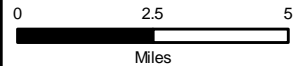
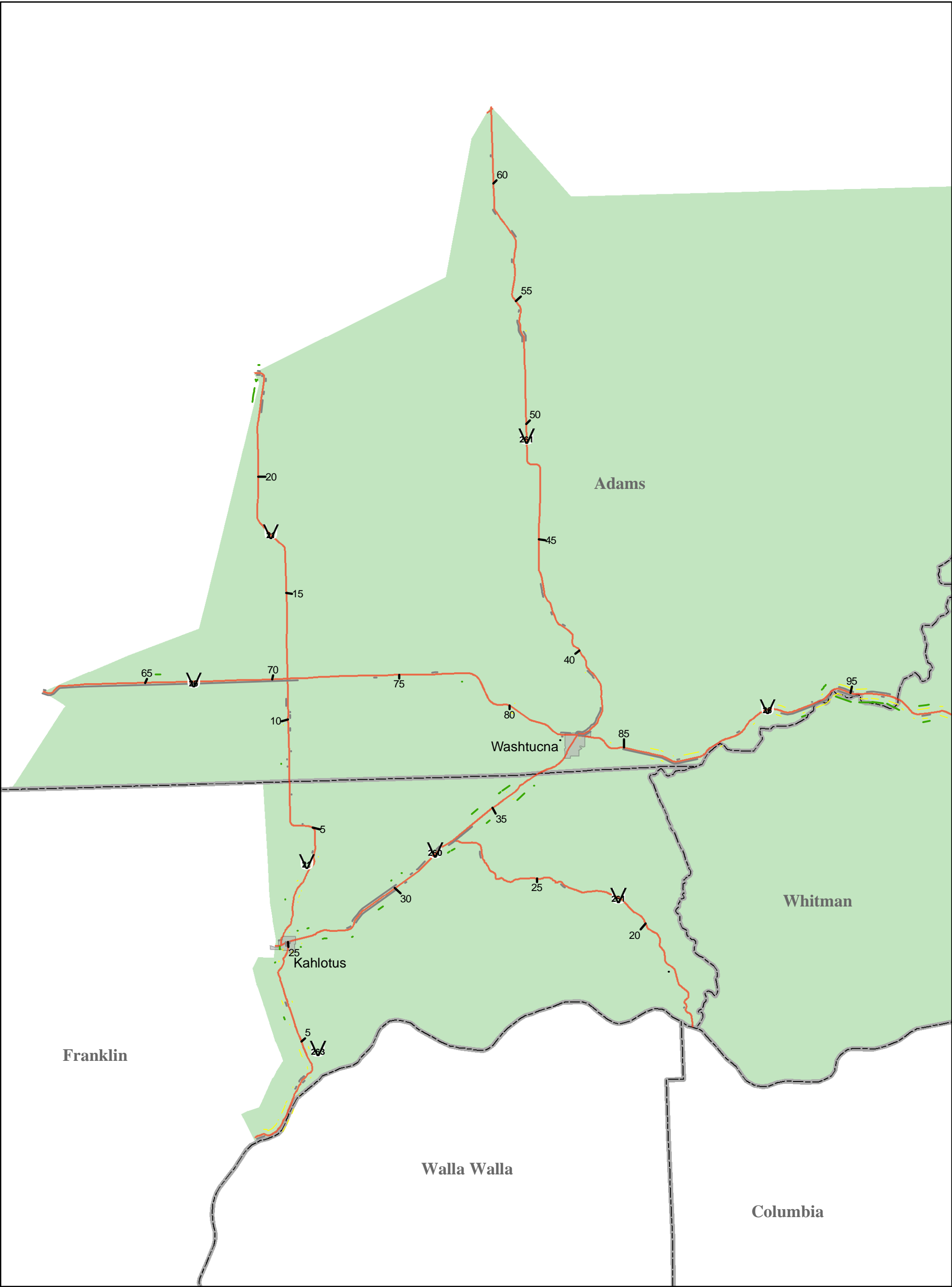
Appendix C:
Eastern Region Area 2
Nuisance Weed Locations
Map 4 of 6



| | | |
|-----------------|---------------------|-------------------|
| Dog Fennel | Kochia | State Routes |
| Pigweed | China Lettuce | City Limits |
| Showy Milkweed | Mullein | County Boundaries |
| Yellow Toadflax | 70 Mile Post Marker | ER area 2 |

Appendix C:
Eastern Region Area 2
Nuisance Weed Locations
Map 5 of 6





| | | |
|-----------------|---------------------|-------------------|
| Dog Fennel | Kochia | State Routes |
| Pigweed | China Lettuce | City Limits |
| Showy Milkweed | Mullein | County Boundaries |
| Yellow Toadflax | 70 Mile Post Marker | ER area 2 |

Appendix C:
Eastern Region Area 2
Nuisance Weed Locations
Map 6 of 6

Appendix D

Special Maintenance Areas

Table 3.0

Definitions: Locations area distinguished between opposing sides of the highway by right shoulder (RS) and median shoulder (LS) in relation to direction of travel, indicated by increasing (INC) or decreasing (DEC) mile markers.

Description - Brief explanation of special treatment required

| SR | Direction | Shoulder | BEG MP | END MP | Type | Description |
|-----|-----------|----------|--------|--------|-------------------|-------------------|
| 021 | Both | RS | 0.00 | 0.20 | City of Kahlotus | Maintain by city |
| 021 | Both | RS | 0.28 | 0.33 | City of Kahlotus | Maintain by city |
| 023 | INC | RS | 13.97 | 14.79 | City of St. Johns | Maintain by city |
| 023 | DEC | RS | 14.79 | 13.97 | City of St. Johns | Maintain by city |
| 026 | Both | RS | 82.52 | 83.09 | City of Washtucna | Maintain by city |
| 026 | Both | RS | 133.25 | 133.53 | City of Colfax | Maintain by city |
| 027 | Both | RS | 0.00 | 1.59 | City of Pullman | Maintain by city |
| 027 | Both | RS | 14.54 | 15.77 | City of Palouse | Maintain by city |
| 027 | Both | RS | 23.89 | 24.88 | City of Garfield | Maintain by city |
| 027 | Both | RS | 35.96 | 37.14 | City of Oakesdale | Maintain by city |
| 027 | Both | RS | 49.17 | 47.78 | City of Tekoa | Maintain by city |
| 027 | Both | RS | 55.06 | 55.86 | City of Latah | Maintain by city |
| 027 | Both | RS | 63.22 | 63.98 | City of Latah | Maintain by city |
| 027 | Both | RS | 0.34B | 0.79B | City of Pullman | Maintain by city |
| 027 | Both | RS | 1.17B | 2.27B | City of Pullman | Maintain by city |
| 195 | INC | RS | 22.39 | 22.85 | Ramp | Mow out quadrants |
| 195 | INC | RS | 62.35 | 62.85 | Ramp | Mow out quadrants |
| 195 | INC | RS | 71.01 | 71.37 | Ramp | Mow out quadrants |
| 195 | DEC | RS | 62.93 | 62.30 | Ramp | Mow out quadrants |
| 195 | DEC | RS | 71.13 | 69.99 | Ramp | Mow out quadrants |
| 195 | Both | RS | 4.68 | 5.78 | City of Uniontown | Maintain by city |
| 195 | Both | RS | 7.82 | 8.60 | City of Colton | Maintain by city |
| 195 | Both | RS | 36.91 | 39.21 | City of Colfax | Maintain by city |
| 260 | Both | RS | 24.73 | 25.33 | City of Kahlotus | Maintain by city |
| 260 | Both | RS | 38.52 | 39.49 | City of Washtucna | Maintain by city |
| 261 | Both | RS | 35.83 | 35.96 | City of Washtucna | Maintain by city |
| 263 | Both | RS | 8.83 | 9.24 | City of Kahlotus | Maintain by city |
| 270 | Both | RS | 0.70 | 5.59 | City of Pullman | Maintain by city |
| 271 | Both | RS | 0.00 | 0.22 | City of Oakesdale | Maintain by city |

Table 3.0

Definitions: Locations area distinguished between opposing sides of the highway by right shoulder (RS) and median shoulder (LS) in relation to direction of travel, idicated by increasing (INC) or decreasing (DEC) mile markers.

Description - Brief explanation of special treatment required

| SR | Direction | Shoulder | BEG MP | END MP | Type | Description |
|-----|-----------|----------|--------|--------|-----------------|------------------|
| 272 | Both | RS | 0.00 | 0.15 | City of Colfax | Maintain by city |
| 272 | Both | RS | 16.28 | 16.52 | City of Palouse | Maintain by city |
| 272 | Both | RS | 16.78 | 17.63 | City of Palouse | Maintain by city |
| 274 | INC | RS | 0.00 | 0.45 | City of Tekoa | Maintain by city |
| 274 | DEC | RS | 0.45 | 0.00 | City of Tekoa | Maintain by city |



Washington State
Department of Transportation

Integrated Vegetation Management Record

| Org. Code 455230 | County Yakima | Date 7/20/2005 | Vegetation Management Zone(s) <input type="checkbox"/> Zone 1 <input type="checkbox"/> Zone 2 <input checked="" type="checkbox"/> Zone 3 | | | | | | | | | | | | | | | | | | | |
|---|---------------------------|--|---|--|------------|---------------------------|--------------------------|--|--|--|---|--|--|--|-----------|-----------|---|--|--|---|--|--|
| Area SR 410 MP 76.6 to MP | | Location Lodgepole stockpile and shed | | | | | | | | | | | | | | | | | | | | |
| Check Appropriate Boxes: <input checked="" type="checkbox"/> Roadside <input type="checkbox"/> Landscaped Area <input type="checkbox"/> Interchange <input type="checkbox"/> Mitigation Site <input type="checkbox"/> Third Party Damage <input type="checkbox"/> Sensitive Sites <input type="checkbox"/> NE <input type="checkbox"/> EB <input type="checkbox"/> Shoulder <input type="checkbox"/> Rest Area <input type="checkbox"/> Bridge <input type="checkbox"/> Stormwater <input type="checkbox"/> Yes <input type="checkbox"/> Aquatic <input type="checkbox"/> SB <input type="checkbox"/> WB <input type="checkbox"/> Median <input type="checkbox"/> Park-n-Ride <input type="checkbox"/> Ramp <input type="checkbox"/> Yard/Stockpile <input type="checkbox"/> Wetlands | | | | | | | | | | | | | | | | | | | | | | |
| Target: <input checked="" type="checkbox"/> Noxious Weeds <input type="checkbox"/> Brush/Trees <input type="checkbox"/> Other <input type="checkbox"/> Nuisance Weeds <input type="checkbox"/> Hazard Tree List Target/Species: Spotted and Diffuse Knapweed | | | | | | | | | | | | | | | | | | | | | | |
| Reason for Action: <input checked="" type="checkbox"/> Noxious Weeds <input type="checkbox"/> Nuisance Weeds <input type="checkbox"/> Fire Prevention <input type="checkbox"/> Restore Native Veg. <input type="checkbox"/> Zone 1 Pilot <input type="checkbox"/> Aesthetic <input type="checkbox"/> Site Distance <input type="checkbox"/> Hazard Vegetation <input type="checkbox"/> Customer Request <input type="checkbox"/> Enhance Vegetation <input type="checkbox"/> Slope Stabilization <input type="checkbox"/> Other | | | | | | | | | | | | | | | | | | | | | | |
| Long term IV/M plan (Describe goals/objectives and a step-by-step approach over time) Our goal is to control the existing Knapweed infestation on our Right of Way, prevent further spread, and curb the future seed production at this site. We have released approximately 200 " <i>Larinus obtusus</i> " in this area to achieve our goal. We will continue to monitor this area and chart the effectiveness of the weevils on the Knapweed. We will not apply herbicide to this area or mow (area marked out with GPS), as long as the bio's are effective. We will notify our County Noxious Weed Board of the release, and keep them advised of the effectiveness of the release. GPS: N 46°54.980' x W 121°23.136' | | | | | | | | | | | | | | | | | | | | | | |
| Approximate Acres to Accomplish 1 | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th>Activities</th> <th>Planned date of Treatment</th> <th>Actual date of Treatment</th> </tr> </thead> <tbody> <tr> <td> Manual <input type="checkbox"/> Digging <input type="checkbox"/> Pulling <input type="checkbox"/> Planting <input type="checkbox"/> Logging <input type="checkbox"/> Staking <input type="checkbox"/> Other </td> <td></td> <td></td> </tr> <tr> <td> Mechanical <input type="checkbox"/> Aerial Saw Work <input type="checkbox"/> Tractor Brush Cutting <input type="checkbox"/> Mower/Chop <input type="checkbox"/> Manual Brush Cutting <input type="checkbox"/> Tractor Mow <input type="checkbox"/> Other </td> <td></td> <td></td> </tr> <tr> <td> Bio-Control <input checked="" type="checkbox"/> Insect <input type="checkbox"/> Pathogen <input type="checkbox"/> Parasite Type/Species </td> <td>7/20/2005</td> <td>7/20/2005</td> </tr> <tr> <td> Cultural <input type="checkbox"/> Burning <input type="checkbox"/> Grading <input type="checkbox"/> Seeding <input type="checkbox"/> Fertilizing <input type="checkbox"/> Grazing <input type="checkbox"/> Soil Amendment <input type="checkbox"/> Other </td> <td></td> <td></td> </tr> <tr> <td> Chemical <input type="checkbox"/> Record Number </td> <td></td> <td></td> </tr> </tbody> </table> | | | | | Activities | Planned date of Treatment | Actual date of Treatment | Manual <input type="checkbox"/> Digging <input type="checkbox"/> Pulling <input type="checkbox"/> Planting <input type="checkbox"/> Logging <input type="checkbox"/> Staking <input type="checkbox"/> Other | | | Mechanical <input type="checkbox"/> Aerial Saw Work <input type="checkbox"/> Tractor Brush Cutting <input type="checkbox"/> Mower/Chop <input type="checkbox"/> Manual Brush Cutting <input type="checkbox"/> Tractor Mow <input type="checkbox"/> Other | | | Bio-Control <input checked="" type="checkbox"/> Insect <input type="checkbox"/> Pathogen <input type="checkbox"/> Parasite Type/Species | 7/20/2005 | 7/20/2005 | Cultural <input type="checkbox"/> Burning <input type="checkbox"/> Grading <input type="checkbox"/> Seeding <input type="checkbox"/> Fertilizing <input type="checkbox"/> Grazing <input type="checkbox"/> Soil Amendment <input type="checkbox"/> Other | | | Chemical <input type="checkbox"/> Record Number | | |
| Activities | Planned date of Treatment | Actual date of Treatment | | | | | | | | | | | | | | | | | | | | |
| Manual <input type="checkbox"/> Digging <input type="checkbox"/> Pulling <input type="checkbox"/> Planting <input type="checkbox"/> Logging <input type="checkbox"/> Staking <input type="checkbox"/> Other | | | | | | | | | | | | | | | | | | | | | | |
| Mechanical <input type="checkbox"/> Aerial Saw Work <input type="checkbox"/> Tractor Brush Cutting <input type="checkbox"/> Mower/Chop <input type="checkbox"/> Manual Brush Cutting <input type="checkbox"/> Tractor Mow <input type="checkbox"/> Other | | | | | | | | | | | | | | | | | | | | | | |
| Bio-Control <input checked="" type="checkbox"/> Insect <input type="checkbox"/> Pathogen <input type="checkbox"/> Parasite Type/Species | 7/20/2005 | 7/20/2005 | | | | | | | | | | | | | | | | | | | | |
| Cultural <input type="checkbox"/> Burning <input type="checkbox"/> Grading <input type="checkbox"/> Seeding <input type="checkbox"/> Fertilizing <input type="checkbox"/> Grazing <input type="checkbox"/> Soil Amendment <input type="checkbox"/> Other | | | | | | | | | | | | | | | | | | | | | | |
| Chemical <input type="checkbox"/> Record Number | | | | | | | | | | | | | | | | | | | | | | |
| #1 Evaluation and Date Follow up date 7/13/06: After 1 year, I have been able to locate 20 " <i>Larinus obtusus</i> " in the release area. Encouraging to note that the elevation at this site is 3552 feet, so most of the bio's survived the winter. | | | | | | | | | | | | | | | | | | | | | | |
| #2 Evaluation and Date | | | | | | | | | | | | | | | | | | | | | | |
| #3 Evaluation and Date | | | | | | | | | | | | | | | | | | | | | | |



Washington State
Department of Transportation

Pesticide Application

| | | | | | |
|---|----------------------------|---|--|---------------------------------|--|
| Org. Code 455210 | County Yakima | Date of Application 7/21/2005 | Start 7:20 ☉ AM ○ PM Finish 9:25 ☉ AM ○ PM | ICP 019A | Stores Issue Ticket Number(s) A 16369 |
| Area SR 82 MP to MP and MP to MP and MP to MP and MP to MP | | | | | |
| Check Appropriate Boxes: <input type="checkbox"/> Roadside <input type="checkbox"/> Landscaped Area <input type="checkbox"/> Interchange <input checked="" type="checkbox"/> Yard/Stockpile <input checked="" type="checkbox"/> Spot Spray <input type="checkbox"/> Aquatic <input type="checkbox"/> NB <input checked="" type="checkbox"/> EB <input type="checkbox"/> Shoulder <input type="checkbox"/> Rest Area <input type="checkbox"/> Bridge <input type="checkbox"/> Blanket Spray <input type="checkbox"/> Wetlands <input type="checkbox"/> SB <input type="checkbox"/> WB <input type="checkbox"/> Median <input type="checkbox"/> Park-n-Ride <input type="checkbox"/> Ramp <input type="checkbox"/> Banded Width | | | | | |
| <input checked="" type="checkbox"/> Weeds <input type="checkbox"/> Noxious Weeds <input type="checkbox"/> Disease <input type="checkbox"/> Brush <input type="checkbox"/> Insects <input type="checkbox"/> Other List Pest(s): Russian Thistle, Kochia | | | | | |
| Start Weather Conditions Temperature 64 °F (°C) Wind (Direction From) NW Wind (Range) 3-5 mph (km/h) ☉ Sunny ○ Broken ○ Overcast No Rain ○ Light Scattered Showers ○ Hard Showers | | | | | |
| Finish Weather Conditions Temperature 80 °F (°C) Wind (Direction From) W Wind (Range) 3-5 mph (km/h) ☉ Sunny ○ Broken ○ Overcast No Rain ○ Light Scattered Showers ○ Hard Showers | | | | | |
| Tank No. | Material Name | Material Type | EPA Reg. No. | Lot Number | Product For Acres (hectares) Unit Total Daily Usage Unit |
| 1 | Water | East Selah | ----- | --- | 50 Gal 50 Gal |
| 1 | Vista | Pesticide | 62719-308 | TC03169441 | 16 Ozl 16 Ozl |
| 1 | MSO | Adjuvant | ----- | 74127 | 32 Ozl 32 Ozl |
| 1 | Amine 4 | Pesticide | 34704-120 | 04PW48724 | 64 Ozl 64 Ozl |
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| | | | | | |
| Total 1 Acres(hectares) Treated at 30 gallons(liters) of spray per acre(hectare). | | | | | |
| Equipment Number 21E36-8 | Tank Size 2 4 1 200 3 5 | Calibration Date 7/21/05 | Vehicle Speed --- mph (km/h) | Nozzle Pressure 25 PSI (kPa) | Width of Spray Pattern --- Feet (meters) |
| <input type="checkbox"/> Handpumped <input checked="" type="checkbox"/> Handgun <input type="checkbox"/> Boom <input type="checkbox"/> Backpack <input type="checkbox"/> Fixed Nozzle <input type="checkbox"/> Other (Specify) _____ | | | <input type="checkbox"/> Tank Mix (Conv.) <input checked="" type="checkbox"/> Injection <input type="checkbox"/> Invert | | |
| Operator Name SCOTT F. CLARK | | Operator Pesticide License No. 31586 | Operator Signature | | Driver Name Jason Deats |
| Remark Treated SC Regional Yard around equipment and storage areas, buildings and fencelines. Monitored wind and temperature. | | | | | Buffer Involvement Name |
| | | | | | Pesticide Sensitivity Registration Applies: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| | | | | | Contact _____ _____ _____ |
| Division of Emergency Management (1-800-258-5990) | | | Additional Notes | | |

DOT Form 540-506 EF
Revised 9/2001

Distribution: OSC Mand. Operator Region File
Send OSC Copy Within 5 Days

Ozl=Ounces Dry Lt=Pound
Ozl=Ounces Liquid Ga=Gallon
Pt=Pint Q=Quart
g=gram kg=kilogram
ml=milliliter L=Liter

Appendix F

STAKEHOLDER LIST

City of Uniontown: 110 S Montgomery, Uniontown Wa. 99179, 509-229-3805
City of Colton: 706 Broadway, Colton Wa. 99113, 509-229-3887
City of Pullman: 325 SE Paradise, Pullman Wa. 99163, 509-338-3209
City of Palouse: 120 E Main, Palouse Wa. 99161, 509-878-1811
City of Colfax: 400 N Mill, Colfax Wa. 99111, 509-397-3861
City of Garfield: 405 W California, Garfield Wa. 99130, 509-635-1604
City of Oakesdale: 107 N 1st Oakesdale Wa. 99158, 509-285-4020
City of Tekoa: Tekoa Wa. 99033, 509-284-3861
City of Latah: 108 E Market Latah Wa. 509-286-3471
City of Fairfield: 218 E Main Fairfield Wa. 99012, 509-283-2414
City of St John: 21 E Front St. St John Wa. 99171, 509-648-3905
City of Washtucna: PO 713 Washtucna Wa. 99371
City of Kahlotus: 130 Weston St Kahlotus Wa. 99335
Whitman County Noxious Weed Control Board: 111 Upton St Colfax Wa. 99111, 509-397-6261
Adams County Noxious Weed Control Board: 201 W Broadway Ritzville Wa. 99169, 509-659-1806
Franklin County Noxious Weed Control Board: 1016 N 4th Pasco Wa. 99301, 509-546-3847
Spokane County Noxious Weed Control Board: 222 N Havana Rm. 112 Spokane Wa. 99202, 509-477-5777
US Fish and Wildlife: 311 Lake Rd. Burbank Wa. 99323, 509-543-8322
Washington State Department of Fish and Wildlife: 315 N. Discovery Place Spokane Wa. 99216, 509-892-1001
Washington State Patrol, Colfax: N 300 Mill Colfax Wa. 99111, 509-397-3600
Washington State Patrol, Ritzville: 1563 Gun Club Rd. Ritzville Wa. 99169, 509-659-1210
Washington State Patrol, Kennewick: 143302 Law Lane Kennewick Wa. 99337, 509-734-7029
Washington State Patrol, Spokane: 6403 W Rowand Spokane Wa. 99224, 509-456-4101
Washington State Department of Ecology:
Port of Whitman: N Mill St Colfax Wa. 99111, 509-397-3791
Washington State Department of Aviation: 3704 172nd St NE Arlington WA. 98223, 360-651-6301
Washington State University: Pullman Wa. 99164, 509-335-3564
Palouse River-Coulee City Railroad: 725 N Lake St Colfax Wa. 99111, 509-397-9014
Corp of Engineers, Lower Monumental Dam: Walla Walla District 509-527-7424
Washington State Parks: PO 42650 Olympia Wa. 98504, 360-902-8844
Franklin County Parks Dept, Windust: 509-546-3541
Whitman County Public Works: 310 N Main Colfax Wa. 99111, 509-397-6202
Franklin County Public Works: 1016 N 4th St. Pasco Wa. 99301, 509-546-3514
Adams County Public Works: 210 W Alder Ritzville Wa. 99169, 509-659-3276
Spokane County Public Works: 1026 W Broadway Spokane Wa. 99250 509-477-3600
Unincorporated Towns: Steptoe, Belmont, Dusty, Ewan and Tillma